



# NASA AMES DEVELOPMENT PLAN

FINAL PROGRAMMATIC

ENVIRONMENTAL IMPACT STATEMENT



## APPENDIX G: NASA AMES RESEARCH CENTER HISTORIC RESOURCES PROTECTION PLAN AND MEMORANDUM OF AGREEMENT

NASA AMES RESEARCH CENTER

JULY 2002



DESIGN, COMMUNITY & ENVIRONMENT

# **NASA AMES DEVELOPMENT PLAN**

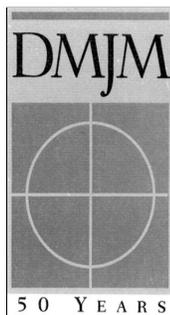
FINAL PROGRAMMATIC

ENVIRONMENTAL IMPACT STATEMENT

## **APPENDIX G**

(Note: Appendices to the HRPP are not final and will be subject to SHPO and Advisory Council on Historic Preservation comments.)

**NASA AMES RESEARCH CENTER**



**JULY 2002**

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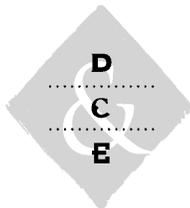
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BAY AREA ECONOMICS

# NASA Ames Research Center Historic Resources Protection Plan for portions of Moffett Field, California



June 2002



**AMES RESEARCH CENTER**  
Prepared by:  
**NASA / AMES**

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NASA Ames Research Center  
Historic Resources Protection Plan  
for portions of Moffett Field, California



# 1

## INTRODUCTION

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### 1.1 GOALS AND OBJECTIVES

This Historic Resources Protection Plan (HRPP) for portions of Moffett Field is NASA's mechanism for complying with historic preservation requirements set forth in Section 106 and 110 of the National Historic Preservation Act of 1966, as amended. The primary purpose of the HRPP is to establish procedures to integrate the planning, preservation, and use of historic properties on lands that will be developed by NASA Ames Research Center into a world-class campus featuring research, development, and education partnerships between government, academia, industry and non-profit organizations in support of NASA missions.

Specific objectives of the HRPP include:

- Integrate historic preservation requirements with NASA decisions that may affect historic properties within the HRPP study area, including planning, design, construction, facility leasing, building repair and maintenance, and other real property or land use decisions.
- Establish a legally approved compliance procedure with the Advisory Council on Historic Preservation (ACHP) and the California State Office of Historic Preservation (SHPO).
- Provide a comprehensive inventory of archeological and historical resources within the study area.
- Provide for the protection and treatment of historic properties, including
  - Establishing design guidelines for new construction within the Shenandoah Plaza Historic District.
  - Establishing guidelines for the repair, maintenance, rehabilitation, alteration, reuse, and leasing of historic resources within the Shenandoah Plaza Historic District.
  - Establishing requirements for unanticipated discovery of archeological resources during new construction or other ground disturbance.
- Set priorities for HRPP compliance activities.

## **1.2 DESCRIPTION OF NASA AMES RESEARCH CENTER — MOFFETT FIELD, CALIFORNIA**

NASA's Ames Research Center, located south of San Francisco Bay in the heart of "Silicon Valley", is a state-of-the-art national facility with missions in critical research areas such as astrobiology, aerospace, aviation systems, and information technology. Ames Research Center occupies about 430 acres of land and borders the cities of Mountain View and Sunnyvale (Figure 1-1). In 1994, NASA Ames Research Center accepted jurisdiction over most of the adjoining 1,500-acre Naval Air Station, Moffett Field, a former naval air station that includes the Shenandoah Plaza Historic District (Figure 1-2). The Shenandoah Plaza District was nominated to the National Register of Historic Places (NRHP) in 1994 by the United States Navy and became a National Historic District the same year. As a result of the transfer of Moffett Field to NASA, the airfield was renamed Moffett Federal Airfield. The combined NASA Ames Research Center and Moffett Federal Airfield is known as Moffett Field or Ames Research Center. Three housing areas, which were part of NASA Moffett Field, were not transferred to NASA. Instead they were transferred to Onizuka Air Station. Later as a result of further base closures and realignments, these three housing areas were transferred to the Army.

## **1.3 NASA RESEARCH PARK AT AMES RESEARCH CENTER: AMES DEVELOPMENT PLAN AND EIS**

On December 8, 1998, NASA unveiled a concept to develop a portion of its Moffett Field property into a world-class, shared-use campus for 21<sup>st</sup> Century research, development, and education. Now known as NASA Research Park, the campus would be a focal point for collaboration and partnerships between NASA, Silicon Valley's R&D industry, preeminent universities, and non-profit institutions. Historic features of the NASA Research Park site include:

- HANGAR 1 – the colossal hangar constructed in 1932 for the *USS Macon* dirigible dominates the site and is listed on the National Register of Historic Places (NRHP) for its architectural, historical, and engineering qualities both individually and as a contributing element of the Shenandoah Plaza Historic District.
- SHENANDOAH PLAZA HISTORIC DISTRICT – A group of historically significant buildings that exemplify architectural styles of the 1920s and 1930s. The buildings are clustered symmetrically in a formal campus-like layout that includes grand boulevards, broad expanses of manicured lawns, and mature trees and shrubs that evoke a park-like setting.

NASA is preparing the Ames Development Plan (ADP) for the development of the NASA Research Park site and three other portions of Moffett Field: existing ARC facilities, Bay View, and Eastside Airfield. NASA is currently preparing a draft EIS to analyze environmental impacts of the ADP and its alternatives. The ADP and all alternatives have the potential to

## *HRPP for Portions of Moffett Field*

affect historic properties listed in or eligible for listing in the NRHP. The primary alternatives differ in size and scope of development but all involve one or more of the following actions:

- Construction of new buildings within and surrounding the Historic District;
- Demolition of some buildings determined ineligible for listing in the NRHP, including non-contributing buildings within the Historic District (no contributing elements of the Historic District would be demolished); and
- Rehabilitation, reuse, and leasing of existing buildings, including Hangar 1 and other significant (contributing) buildings within the Historic District.



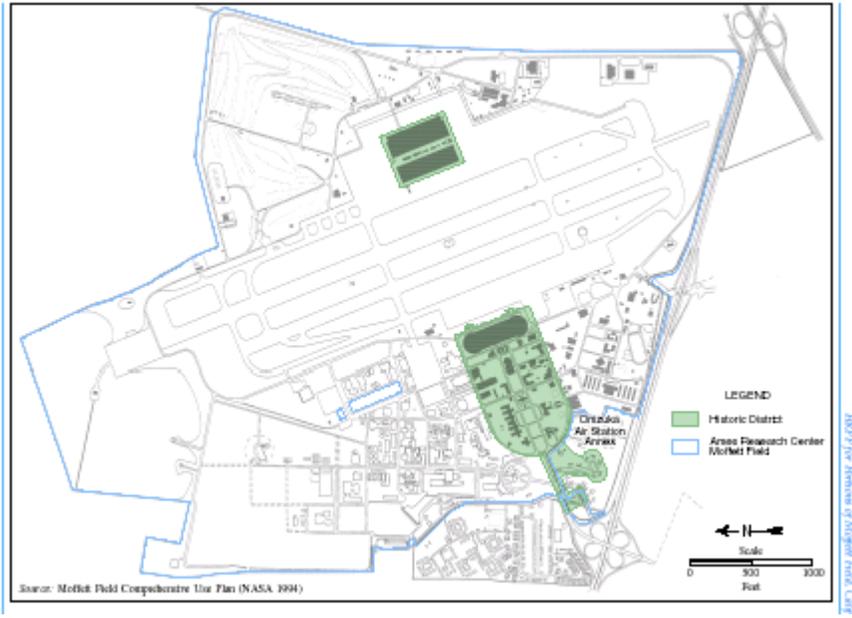


Figure 1-2 Shenandoah Plaza Historic District, NASA Ames Research Center, Moffett Field

Hangar 1 has been identified as a key element of NASA's Research Park development. With its towering presence, eight acres of undivided floor space, and links with the past, Hangar 1 is an obvious candidate for reuse and public benefit. As part of the NASA Research Park, it would house the California Air & Space Center (CASC) and would be leased to an independent, non-profit foundation established by Ames and the cities of Mountain View and Sunnyvale. The CASC will convert Hangar 1 into a state-of-the-art science and technology learning center to showcase NASA missions and Silicon Valley cutting-edge technologies. The center would include a teaching institute, an educator resource center, a public facility with interactive exhibits, displays, and other educational features.

NASA is currently negotiating with a prospective tenant (Invisible Studios), to lease buildings 17, 20, 21, 22, 23, 24, & 25 for use as office space. A lease for this activity has been forwarded to the SHPO's office for review and comment. Invisible Studios will occupy portions of these buildings and use the space for general office purposes.

One of the major objectives of this HRPP is to ensure that rehabilitation, reuse, and leasing have no adverse effect on Hangar 1 and other contributing elements of the Shenandoah Plaza Historic District.

## **1.4 GEOGRAPHIC AREA OF THE HRPP**

This HRPP includes portions of NASA Ames Research Center Moffett Field that may be affected by the development of the new research park (Figure 1-3) plus Hangars 2 and 3. This area includes the western portion of Moffett Federal Airfield and most of the Shenandoah Plaza Historic District, but excludes contributing housing elements within the Onizuka Air Station. Operation and routine maintenance of Air Force housing portions of the Shenandoah Plaza Historic District are governed by a September 1995 Programmatic Agreement between the ACHP, California SHPO, and the Air Force, Onizuka Air Station, Air Force Space Command.

## **1.5 ACTIVITIES REGULATED BY THE HRPP AND CATEGORICAL EXEMPTIONS**

### **REGULATED ACTIVITIES**

The following activities at Moffett Field may have an effect on cultural resources listed in or potentially eligible for listing in the NRHP:

- Repair, rehabilitation, reuse, maintenance, demolition, or relocation of any contributing element of the Shenandoah Plaza Historic District, including but not limited to buildings; roads, sidewalks, street lights, fencing and other structures; open spaces, landscaping, and other elements of the site plan and layout.
- New construction not compatible with the setting, site plan, design, and construction of the Shenandoah Plaza Historic District.

*HRPP for Portions of Moffett Field*

- Installation of new signs or modification of existing signs that are not compatible with the setting, site plan, design, and construction of the Shenandoah Plaza Historic District.
- New construction within archaeologically sensitive areas

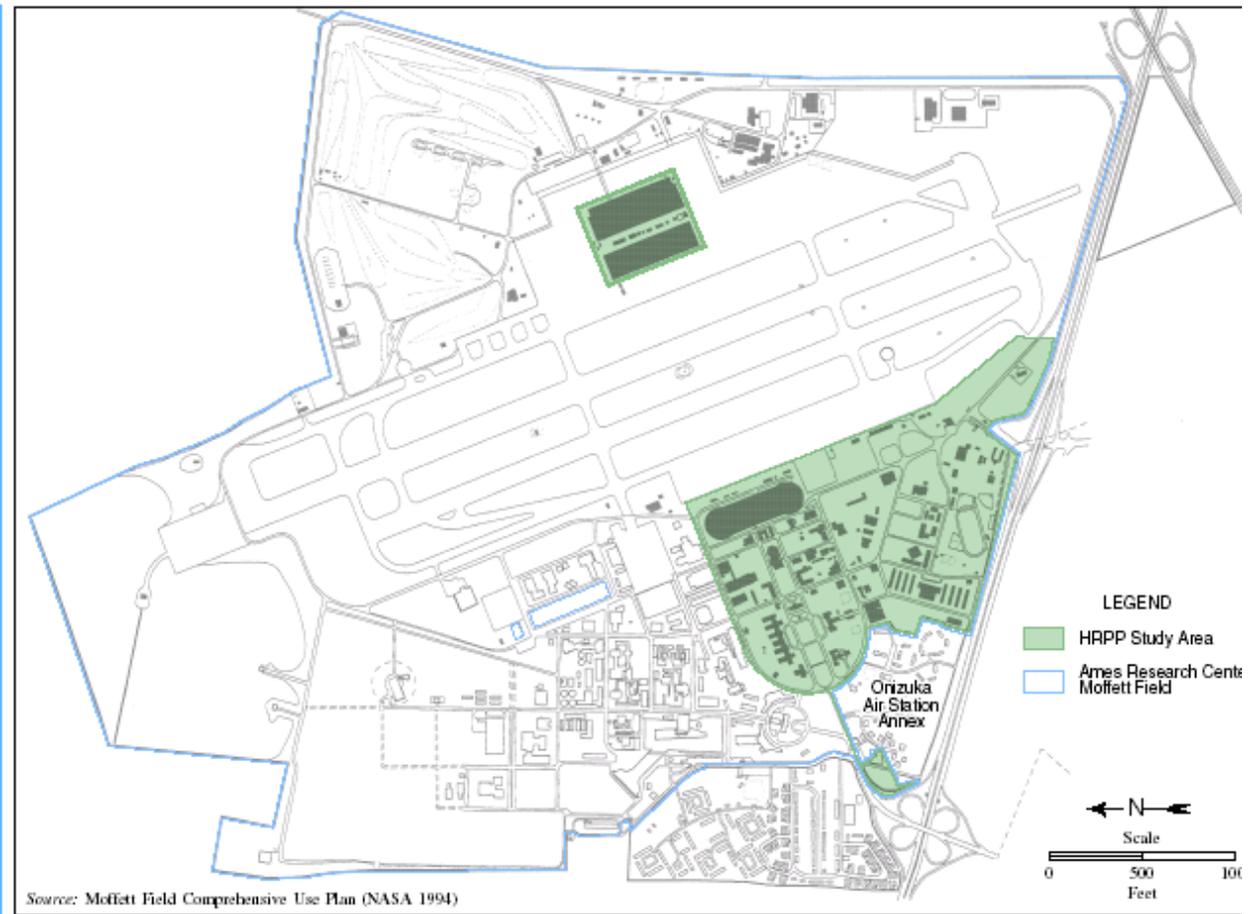


Figure 1-3 HRPP Study Area and NASA Ames Research Center – Moffett Field

- Activities of private individuals, businesses, or agencies who are granted leases, special events licenses, easements, or rights-of-way within the Shenandoah Plaza Historic District.

## **CATEGORICAL EXEMPTIONS**

Appendix A of this HRPP lists classes of activities that are considered categorically exempt from the HRPP or are otherwise considered to have no effect on historic properties. Once this HRPP is approved in writing by the California SHPO, NASA Ames Research Center may conduct these activities without further Section 106 consultation with the California SHPO or the ACHP.

## 2 HRPP PRIORITIES

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The following measures will enable NASA Ames Research Center – Moffett Field to achieve compliance with the National Historic Preservation Act (NHPA) for actions within NASA’s Research Park and NASA properties within the Shenandoah Plaza Historic District (see Section 6 below).

- A. Prepare a comprehensive set of architectural guidelines for the Shenandoah Plaza Historic District.
  - (1) Design guidelines included as Appendix D of this HRPP, entitled *HRPP Design Guidelines for New Construction within the Shenandoah Plaza Historic District*, address new construction within the National Register District. Architectural guidelines for the repair, maintenance, rehabilitation, alteration, and reuse of contributing buildings within the National Register District are currently being prepared by NASA through a contract with Architectural Resources Group (ARG). These forthcoming *Design Guidelines for Rehabilitating Historic Buildings within the Shenandoah Plaza Historic District* will be integrated into the HRPP as an addendum once they completed and approved.
- B. Develop an Unexpected Discovery Plan to effectively treat the inadvertent exposure of subsurface archeological resources during construction.
- C. Identify all foreseeable NASA undertakings within the HRPP geographic area over the next five years which may affect National Register properties. Classify these undertakings according to the following categories:
  - (1) Actions that may affect contributing elements of the Shenandoah Plaza Historic District.
    - (a) Single-occurrence actions such as new construction, demolition, or major rehabilitation of a contributing building or structure.
    - (b) Routine or repetitive actions such as repair or maintenance.
  - (2) Actions that include excavations deeper than 12 inches within archaeologically sensitive areas.
- D. Specify every National Register resource likely to be affected by single-occurrence actions noted above in 2.D.1(a) and 2.D.2.
  - (1) In consultation with the California SHPO, prepare a treatment plan (mitigation plan) for lessening any adverse effects from single-occurrence undertakings on architectural resources. All treatment plans should be consistent with HRPP Treatment Categories (Section 6.2), *HRPP Design Guidelines for New Construction within the Shenandoah Plaza Historic District* (Appendix D) and the forthcoming

## *HRPP for Portions of Moffett Field*

*Design Guidelines for Rehabilitating Historic Buildings within the Shenandoah Plaza Historic District* for contributing elements of the Shenandoah Plaza Historic District.

- E. Specify every National Register resource likely to be affected by routine or repetitive actions noted above in 2.D.1.(b).
  - (1) Implement *HRPP Design Guidelines for New Construction within the Shenandoah Plaza Historic District* (Appendix D) and the forthcoming *Design Guidelines for Rehabilitating Historic Buildings within the Shenandoah Plaza Historic District* for contributing elements of the Shenandoah Plaza Historic District.
- F. Specify every archeologically sensitive area likely to be affected by ground disturbance as noted above in 2.D.3.
  - (1) Implement Unexpected Discovery Plan noted above in 2.C. whenever disturbing zones deeper than 2 feet below the current ground surface.
- G. Finalize the HRPP and obtain written concurrence from the California SHPO.
- H. Negotiate and execute a Programmatic Agreement with the California SHPO and Advisory Council on Historic Preservation to streamline Section 106 compliance for actions that may affect architectural or archeological resources that are listed in, eligible for listing in, or potentially eligible for listing in the National Register of Historic Places. The HRPP will be the basis of the PA.
- I. Distribute copies of the final HRPP and other relevant documents to all NASA Ames Research Center personnel and partners whose decisions or actions may affect National Register resources at the NASA Ames Research Center. These personnel include, but are not limited to, people involved with:
  - (1) Siting and design of new construction.
  - (2) Maintenance and repair, rehabilitation, and use/reuse of National Register resources (including those responsible for decision-making).
  - (3) Leasing and licensing of National Register resources.
- J. Provide training in applying relevant portions of the HRPP and associated documentation to all NASA personnel and partner's personnel whose decisions or actions may affect National Register resources at the NASA Ames Research Center. These personnel include, but are not limited to, people involved with:
  - (1) Siting and design of new construction.
  - (2) Maintenance and repair, rehabilitation, and use/reuse of National Register resources (including those responsible for decision-making).

- (3) Leasing and licensing of National Register resources.
- K. Inventory, catalogue, and curate the archival records currently located in Hangar 1 at Moffett Historical Society. .

# 3 HISTORIC CONTEXT OF NASA MOFFETT FIELD

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The following historic context for NASA Moffett Field is based largely on *Archaeological Overview and Survey, Naval Air Station Moffett Field, Santa Clara County, California, and Naval Auxiliary Landing Field Crows Landing, Stanislaus County* (Basin Research Associates 1991), and *Final Inventory and Evaluation of Cold War Era Historical Resources* (SAIC 1999).

## PREHISTORIC AND ETHNOHISTORIC PERIODS

The San Francisco Bay region has been occupied for more than 10,000 years (Moratto 1984:218). Unfortunately, historic and modern growth of the Bay, especially on the Peninsula and east bayshore, has destroyed much of the potential cultural material in the area, which has in turn obscured investigators' ability to create a local cultural chronology. Following a more regional cultural chronology, it appears that sparse populations of hunter-gatherers inhabited the region as early as B.C. 2000. The presence of large projectile points and millingstones, and a lack of the high density marine shellfish deposits, typical of later time periods, suggests that these early inhabitants relied heavily on the hunting and gathering of terrestrial foods (Moratto 1984:277). This time period has sometimes been referred to as the Archaic Stage (Fredrickson 1974; Willey and Phillips 1958).

After B.C. 2000, settlement and subsistence revolved more heavily around bayshore and marsh habitats (Moratto 1984:277). A marked increase in acorn processing also occurred. Archeological evidence suggests that population growth, settlement differentiation, trade, social ranking, and status ascription are indicative of this period. By A.D. 1, numerous villages had been established throughout San Francisco Bay.

Beginning around A.D. 300, the bow and arrow, harpoon, tubular tobacco pipe, clam disk beads (used as currency), and pre-interment grave burning appear in the archeological record. This time period has been referred to as the Augustine Pattern or the Late Horizon. Increasing population growth, status differentiation, greater emphasis on acorns, and more intensive trade and exchange systems are prevalent at this time (Moratto 1984:283).

The prehistoric inhabitants of central California from San Francisco Bay to Big Sur were collectively known as the Costanoans (or Ohlones) meaning "coastal people". The Costanoan is a linguistic designation that covered approximately 50 separate and politically autonomous nations or tribelets (Levy 1978) that occupied the central California coast as far east as the Diablo Range. Linguistic evidence suggests that the Costanoans moved into the Bay Area around A.D. 500 and replaced the original Hokan-speaking population (Basin Research Associates 1991).

The Costanoan inhabitants of this area were known as *Tamyen* (*Tamien*) and *Ramaytush*. It was the Ramaytush-speakers who lived in the San Francisco area. As of A.D. 1770, approximately 1,400 Ramaytush-speakers were living in what are now San Mateo and San Francisco counties (Levy 1978). The Ramaytush inhabited permanent villages composed of conical houses of split redwood or redwood bark, and, like most of the Costanoan groups, exploited a wide variety of

plants and animals from both marine and terrestrial settings. They hunted large and small game, collected berries and acorns, and fished the local waters. The Ramaytush usually cremated the dead. If kinsmen of the deceased were not available to gather wood for the fire, then the body was buried without cremation (Kroeber 1925).

Within the *Tamyen* and *Ramaytush* areas, researchers have identified several possible tribelets and village locations in the study area. The nearest tribelet settlements were the *puyson* (Arroyo de San Francisco) *San Jose Cupertino*, and *Santa Clara*. However, Kroeber (1925) indicates only *Polsol-mi* in the study area. The *Rancho Posolmi*, was the grant confirmed to Native American Lopez Indigo (alternatively Ynigo), in 1881 that was once a large portion of what is now Moffett Field. Kroeber's *Polsol-mi* therefore, may be a derivative of the Rancho name.

The Mountain View area may have been inhabited by the *Puichon* (*puyson?*), who controlled part of the San Francisquito Creek drainage. The *Puichon* may have controlled approximately 50 square miles around this drainage. The term *San Francisquito* was used by the priests from Mission San Francisco for the village of *Ssiputca*, assumed to be located at the mouth of the San Francisquito Creek (Basin Research Associates 1991).

## **SPANISH PERIOD**

The Spanish explored the Aliso-San Jose area as early as 1769, beginning with the expedition of Gaspar de Portola and Father Juan Crespi. Another expedition reached the lower Guadalupe River in 1776 led by Juan Bautista de Anza and Father Pedro Font. As part of their expansion into the area, the Spanish established presidios, missions, and secular towns in California, including Fort Castillo de San Joaquin, and a presidio in the Golden Gate area between 1776 and 1794.

As a result of the positive reports of Anza and Font, both Mission Santa Clara and the Pueblo San Jose de Guadalupe were established in 1777. The Pueblo of San Jose de Guadalupe was one of the three towns founded in Alta California to manage and coordinate the missions and presidios of the province. The pueblos provided a resident civilian population in Alta California and thereby played an integral part in Spain's conquest of the area.

Of the seven missions located within Costanoan territory, Mission Santa Clara probably had the greatest impact on the aboriginal population living in the vicinity of the project alignment. The Mission Santa Clara provided for all the religious needs of the Pueblo San Jose de Guadalupe until 1851.

## **MEXICAN PERIOD**

Land ownership patterns in the Santa Clara Valley changed after 1822 when Mexico revolted against Spain, and 1834 when the missions became secularized. The Spanish philosophy of government between 1797 and 1822 involved ownership of the land by the Crown, and the founding of presidios, missions, and secular towns. In contrast, the later Mexican policies emphasized individual land ownership rights. Large tracts of land were granted to individuals

during this time, including lands formerly in control of the missions, which had reverted to public domain. The lands farthest from the Pueblo and Mission were usually granted first. Valley and uplands acreage as well as access to a water supply were also usually included in the grants.

Moffett Field in particular, located in what was known as *Rancho Posolmi*, was granted to Ynigo, a Native American in 1844 by Governor Micheltorena. Ynigo occupied the area from as early as 1834 until his death in 1864.

A small portion of Moffett Field was also situated on *Rancho Pastoria de las Borregas*. Jose Mariano Estrada petitioned for this grant for himself and his son. The *Rancho Pastoria* was finally granted to the son Francisco M. Estrada, in 1842 by Governor Juan B. Alvarado. That same year, however, Jose Mariano Estrada sold the entire the land grant to Mariano Castro, who in 1849 sold a portion of the Rancho to Martin Murphy Sr.

## **AMERICAN PERIOD**

During the early American Period from 1847-1876, agricultural land-use patterns of stock raising established during the Hispanic Period, continued. However, this pattern declined after the drought of 1863-1864, when wheat-barley production, dairy farms, and orchards became the primary agricultural practices. During this period between the 1860s and 1870s, the preliminary experiments with horticulture and other crops took place. After many successful agricultural experiments in 1875, and the expansion of markets via rail, development of horticulture was enlivened. Horticulture resulted in smaller parcels of land in a valley of ever expanding population. In addition, it provided a labor-intensive but profitable product. With the invention of the refrigerator railroad car during the 1880s, the transportation of agricultural produce to distant markets became possible and the development of horticulture greatly increased in the Santa Clara Valley. As a result, between 1876-1940s, also known as the later American Period and the Contemporary Period, horticulture/fruit production became a major industry. After 1875, the ever expanding market led to innovations in fruit preservation and shipping including drying fruit, canning fruit, and shipping fresh fruit by train. This resulted in an broad economic growth, which attracted new residents to the Santa Clara Valley.

As a result of its booming population, Santa Clara County was one of the original 28 counties created in 1850. In 1853, the northern part of the county became incorporated into the newly-organized Alameda County. Cities such as Mountain View, Sunnyvale, Milpitas and San Jose were isolated central services centers surrounded by farmsteads and acres of agricultural lands throughout the 19th and into the mid 20th century. Since World War II however, this agrarian land-use pattern has been displaced by dense urban housing, commercial centers, and the electronics industry as part of the "Silicon Valley."

## **EARLY TWENTIETH CENTURY**

In 1926, the Navy decided to build two lighter-than-air (LTA) rigid dirigibles, the *USS Macon* and the *USS Akron*, to serve as war-time scouting airships. Needing a West Coast base to house

one of the airships, the Navy looked to Camp Kearney in San Diego. To encourage its location in northern rather than southern California, the northern California counties of San Francisco, Santa Clara, San Mateo, and Alameda raised \$476,600 and purchased 1,000 acres of the 1,700-acre Ynigo Ranch between Mountain View and Sunnyvale, and then offered the site to the Navy. President Herbert Hoover, familiar with the area as a Stanford graduate, selected the Mountain View property and authorized a bill accepting the site for one dollar and appropriating \$5 million for construction of the new base. The result was a symmetrical campus-like facility oriented around a colossal dirigible hangar (Figure 3-1).

Shortly before the commissioning of the new base in 1933, the *USS Akron* was destroyed in a New Jersey storm, killing most of the crew as well as an observer, Rear Admiral William A. Moffett, USN, Chief of the Navy Bureau of Aeronautics and a major advocate of naval aviation. As a result, the new base, called Sunnyvale Naval Air Station (NAS), named its landing field for Moffett. The *USS Macon* arrived at Sunnyvale in October 1933 (Figure 3-2). It was the largest and last dirigible built by the U.S. Government. The *USS Macon* patrolled the Pacific Ocean, scouting for ships of the Pacific fleet. It was outfitted with small Sparrowhawk fighter planes that were stored in an interior hangar bay, from which they were launched and recovered. The *USS Macon's* tenure at Sunnyvale was short-lived. In February 1935 it went down in the sea off Point Sur. No further rigid dirigibles were constructed (*Moffett Field 60<sup>th</sup> Anniversary*, 1993; *Disestablishment Ceremony for NAS Moffett Field* 1994).

With the loss of the *USS Macon*, President F. D. Roosevelt recommended that no further money be spent on dirigibles. For a few months, naval aircraft were stationed at NAS Sunnyvale and housed within the cavernous Hangar 1 (Figure 3-3). The field was reassigned to the U.S. Army Air Corps in October 1935, and renamed the Moffett Field Army Air Corps Base. The base became home to the 82<sup>nd</sup> Army Observation and the 9<sup>th</sup> Air Base Material squadrons with ten observation planes, one hundred officers, and 1,000 enlisted men. In 1938 five pursuit squadrons from the 19<sup>th</sup> and 20<sup>th</sup> Air Groups were stationed at Moffett, raising the population to 300 officers and 5000 enlisted men. Two years later, Moffett became the Army Air Corps west coast training center for Army pilots (Coletta 1985:322; *Moffett Field 60<sup>th</sup> Anniversary*, 1993; *Disestablishment Ceremony for NAS Moffett Field* 1994).

### ***World War II Era***

With the attack on Pearl Harbor by the Japanese in 1941, the United States military realized that the West Coast did not have the proper aircraft for patrolling the Pacific for submarines and mines. By January 1942, a number of Navy personnel gathered LTA aircraft, men, and materials at Moffett and established the LTA squadron ZP-32. It carried out the first LTA patrol of the Pacific Coast in World War II. As a result of this activity, by April 1942 Moffett was returned to the Navy and recommissioned as U.S. Naval Air Station Sunnyvale, renamed almost immediately Naval Air Station, Moffett Field.

In October 1942, a lighter-than-air aviation cadet program was begun, and the Army's barracks were remodeled and used as classrooms. By November 1942 the Assembly and Repair Department was established to build four L-type training blimps and assemble K-type blimps



Figure 3-1. Aerial View of NAS Moffett Field (1935)



Figure 3-2 USS Macon and Hangar 1, NAS Moffett Field (1933)



Figure 3-3 Naval Squadrons in Hangar 1, NAS Moffett Field (1935)

shipped from Goodyear to Moffett Field. Two new hangars, #2 and #3, were constructed to house these training blimps (Figure 3-4). Each blimp carried from seven to nine crew members and was armed with depth bombs. Carrier pigeons were used for sending messages. In addition to training, these blimps patrolled the Pacific Coast, searching for enemy ships or mines (Figure 3-5). They also reported schools of fish to the local fishermen in San Francisco and Monterey (*Disestablishment Ceremony for NAS Moffett Field 1933-1994*; "Command History. Twelfth Naval District...," 1929-1958). Trainees first qualified as pilots of hot air balloons before graduating to the blimps (Figure 3-6). Hangar 1 was an all-weather training facility for these balloons.

In 1942 the Navy designated Moffett Field a joint LTA and heavier-than-air (HTA) facility. By 1943 the HTA activities increased markedly. Moffett Field supported the HTA units operating with the Fleet Air Units of the Twelfth Naval District, housing advance base training units and patrol bomber training squadrons. By 1944 the last blimp was sent to Moffett Field, and the final training class was conducted. In 1945 the airship squadron was deactivated, and in 1947 the last blimp at Moffett Field was deflated, ending the LTA mission at Moffett Field ("Command History. Twelfth Naval District...," 1929-1958).

In January 1945, Moffett Field was designated as a major Overhaul and Repair Base, and Naval Air Transport heavy maintenance and training activities were transferred there while the HTA fleet units moved out. At this time a large construction project was undertaken to improve runways to handle usage by the Naval Air Transport Service (NATS) R-4D and R-5D transport planes. By November 1945 Naval Air Transport Squadron 44 began operations at Moffett Field ("Command History. Twelfth Naval District...," 1929-1958).

## **COLD WAR ERA (1946-1989)**

### ***1946-1963 – Naval Air Transport Service, Jet Base***

During the years from 1945 to 1949 Moffett Field continued to support the Naval Air Transport Service (NATS) operations. In 1948 the designation of Helicopter Overhaul and Repair Base was added. By 1949, the mission changed once again to supporting the Military Air Transport Service. Moffett Field became the largest Naval Air Transport base on the West Coast (*Moffett Field 60<sup>th</sup> Anniversary*, 1993; Command History. Twelfth Naval District...," 1929-1958).

When the Korean War broke out in 1950, Moffett Field became a jet base, serving as the home base for jet carrier squadrons assigned to Navy aircraft carriers. Composite Squadron Three flew F-3D Skynight aircraft, the first night jet fighter based at Moffett Field. In 1953 Moffett Field became a Navy Master Jet Station, home to the F3D Skynight, F2H-1 and F2H-2 Banshee aircraft, and was designated the first of nine all-weather naval air stations (Coletta 1985:323; *Moffett Field 60<sup>th</sup> Anniversary*, 1993).

To support the approximately 300 jet aircraft stationed at Moffett Field, including first-line fighters and heavy transports, a number of new facilities were constructed. This was the largest



**Hangar 2**



**Hangars 2 and 3**

**Figure 3-4. Hangars 2 and 3 During Construction (1943)**



**Figure 3-5. L-Type Blimps in Formation Near NAS Moffett Field (1943)**



**Figure 3-6. WWII Training Balloons at NAS Moffett Field (Date Uncertain)**

expansion since World War II (“Command History. Twelfth Naval District...,” 1929- 1958). The main mission of Moffett at this time was for testing new aircraft and jet operations.

During the period from 1950 to 1958, Moffett Field served as a training center, with 20 squadrons conducting their training at the Field, and as headquarters for Commander Naval Air Transport Wing, Pacific (“Command History. Twelfth Naval District...,” 1929-1958). In 1961 Moffett Field became a carrier attack squadron training center.

As the number of jet planes using Moffett Field increased, the surrounding residential area also became increasingly developed. One of the jet missions was to practice low-altitude landing approaches to a simulated aircraft carrier deck painted on the runway. Because of congestion, it was difficult to carry out this mission at Moffett Field, and therefore this activity was transferred to NASA Crows Landing (formerly Navy’s Crows Landing Flight Facility), in 1954.

### ***1962-1989 – P-3 Orion Antisubmarine Warfare Aircraft Base***

When the jet mission was removed from Moffett Field in 1962, there was speculation that the station would be decommissioned. However, that same year the U.S. Navy announced that Moffett Field had been chosen as the West Coast base for the Navy’s new ASW patrol aircraft, the P-3 Orion. The mission of the P-3 aircraft at Moffett Field was to protect and control Northern Pacific sea lanes and to deploy strategic nuclear weapons as part of a triad of U. S. aircraft carriers and attack submarines, serving as a deterrent to the nuclear capabilities of the Soviet Fleet in the Pacific and Indian Oceans and the China Sea.

This new mission provided Moffett Field with a significant Cold War role, one that remained until the base closure in 1994. The mission arose from the need of the U.S. Navy to provide a deterrent to the Soviet patrol and cruise missile submarines traveling the Atlantic and Pacific Oceans, armed with weapons directed at key U.S. cities and industries and at Air Force bomber bases.

Initially these Soviet submarines were kept under surveillance by U. S. submarines. However, as early as the 1950s the number of Soviet submarines had proliferated to such a degree that the U. S. Navy realized that it could not match the Soviet Navy submarine for submarine. Rather, it decided to support a smaller U.S. submarine fleet by developing a new aircraft designed to perform the tasks of tracking and, if necessary, intercepting and destroying Soviet submarines (Zimmerman 1969).

The P-3 Orion as an ASW aircraft was developed in 1957 by Lockheed at the request of the U.S. Navy, in response to the need for a new aircraft. In 1962, after numerous tests, the Navy assigned the first P-3 Orion aircraft to squadrons VP-8 and VP-44, stationed at Patuxent River Naval Air Training Center (NATC) in Maryland.

Moffett Field was chosen as the West Coast training and operational base for P-3 Orion ASW activities because it was close to the fleet in San Francisco Bay area, close to the coast, and close

enough to the Soviet submarines patrolling Pacific waters to be able to monitor them. In 1963 Moffett Field “assumed full P-3A aircraft support capability” and Lockheed established an office at Moffett Field to provide contractor support service (W. Carl Honaker, personal communication; “Command History. Twelfth Naval District...,” 1963). In 1964 the Navy’s ASW organization was commissioned, and Moffett Field was given a Commander Fleet Air Wings Pacific to provide administrative command and training of all patrol squadrons in the Pacific. The following year the Commander was also titled Commander Fleet Air Moffett with jurisdiction for the operations of Moffett Field and operational control of the squadrons home-based at Moffett (*Commander, Patrol Wings, U.S. Pacific Fleet. Change of Command Ceremony* 1990).

Moffett Field supported bases at NAS Adak, Alaska, in the Aleutian Islands; NAS Cubi Point and NAS Sangley Point, Republic of the Philippines; NAF Misawa and MCAS Iwakuni, Japan; NAF Kadena and NAF Naha, Okinawa; Diego Garcia, Indian Ocean; NAS Agana, Guam; and NAF Midway Island. NAS Jacksonville, Florida supported bases at Keflavik, Iceland; Sigonella, Sicily; Spain; the Azores; Bermuda; Ascension Island; and Puerto Rico (“History of Patrol Squadron...n.d.”; “The High-Stakes Business of Antisub Warfare.” 1978; W. Carl Honaker, personal communication, February 1998).

By 1967 the Commander at Moffett Field was additionally titled Commander Patrol Force Pacific with jurisdiction over 13 patrol squadrons and two patrol wings. In 1973 these three responsibilities were combined into Commander, Patrol Wings, U.S. Pacific Fleet (COMPATWINGSPAC). Under his control were 83 million square miles of ocean, including the Northern Pacific Ocean, Bering Sea, Chukchi Sea, Sea of Okhotsk, Sea of Japan, Yellow Sea, East China Sea, Philippine Sea, South China Sea, Andaman Sea, and the Indian Ocean, the Naval Air Stations at Adak, Alaska and Barbers Point, Hawaii, as well as the Naval Air Facility, Midway Island. (*Commander, Patrol Wings, U.S. Pacific Fleet. Change of Command Ceremony* 1990).

### **1989 – 1999**

After more than 50 years of service as a Naval Air Station, the Base Realignment and Closure Commission (BRAC) recommended in June 1991 that Moffett Field be realigned. Active duty Naval personnel departed July 1, 1994, when a large portion of the base was transferred to NASA to use as a shared federal facility. As a result of the transfer of Moffett Field Naval Air Station to NASA, the airfield was renamed Moffett Federal Airfield and became part of the NASA Ames Research Center. Some military activity is still present, most notably use by the Army Reserve and the California Air National Guard. Hangars 3 is used by these Resident Agencies to support their aircraft operations.

# 4 INVENTORY OF ARCHEOLOGICAL RESOURCES

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A complete archeological overview and surface survey of the former NAS Moffett Field and the NASA Ames Research Center was conducted by Basin Research Associates, Inc. (1991). It included regional clearinghouse record searches, summary of previous investigations, field survey, data evaluation and recommendations. A 1993 letter report on subsurface archeological testing east of Moffett Field (Woodward-Clyde Consultants 1993) provides additional information as does Archaeological Investigation of the Outdoor Aerodynamic Research Facility conducted by Basin Research Associates Inc. (1993). These three reports are provided under separate cover in Appendix F of this HRPP.

The *Moffett Field Indian Mounds* are listed in the Santa Clara County Heritage Resource Inventory. None are located within the HRPP study area, but 10 prehistoric or prehistoric/historic archeological sites have been recorded within or immediately adjacent to Moffett Field (see Figure 4-1). These sites include former occupation sites CA-SCI-12/H, -14, -15, -16, -17, 19, -20/H, -21/H, and -24 and one small campsite, SCI-18/H (Basin Research Associates, Inc. 1991: Appendix II, List II-2). Most sites were recorded in 1912 by Loud. Little information about these sites exists and boundaries are not known. The 1991 report indicates that none have been relocated despite a number of surveys and limited subsurface excavations (Basin Research Associates, Inc. 1991: 5).

In addition, historic maps indicate that Moffett Field has the potential to contain pre-1880 historic archaeological resources, including a landing and connecting road, stage stop, and a number of residences dating from the 1850s to the 1890s (Basin Research Associates, Inc. 1991: Appendix II, List II-3). None of these are within the HRPP study area.

In 1991, Basin Research archeologists surveyed the facility and attempted without success to relocate the recorded sites and find archeological evidence of buildings and structures shown on historic maps. They concluded:

None of the sites recorded or identified within the NAS Moffett Field project areas appear to be eligible for inclusion on the National Register of Historic Places. With the exception of CA-SCI-24, none of the recorded prehistoric sites in NAS Moffett Field can be relocated. Development, including the current facilities and especially past subsurface infrastructure improvements appear to have destroyed the integrity of any archaeological resources.

The NAS Moffett Field Master Plan provides ample documentation of a number of subsurface impacts since 1931 in the vicinity of the recorded archaeological sites. These include electrical distribution systems; fresh water lines; sanitary sewer systems; storm drains; gas, fuel and steam lines; and underground telephone distribution lines. The likelihood of the existence of pristine archaeological sites is remote.

As a result of these surface and subsurface impacts, none of the historic-era resources [or areas] appear to satisfy the eligibility criteria for inclusion on the National Register of Historic Places - (Basin Research Associates 1991: 17-18).

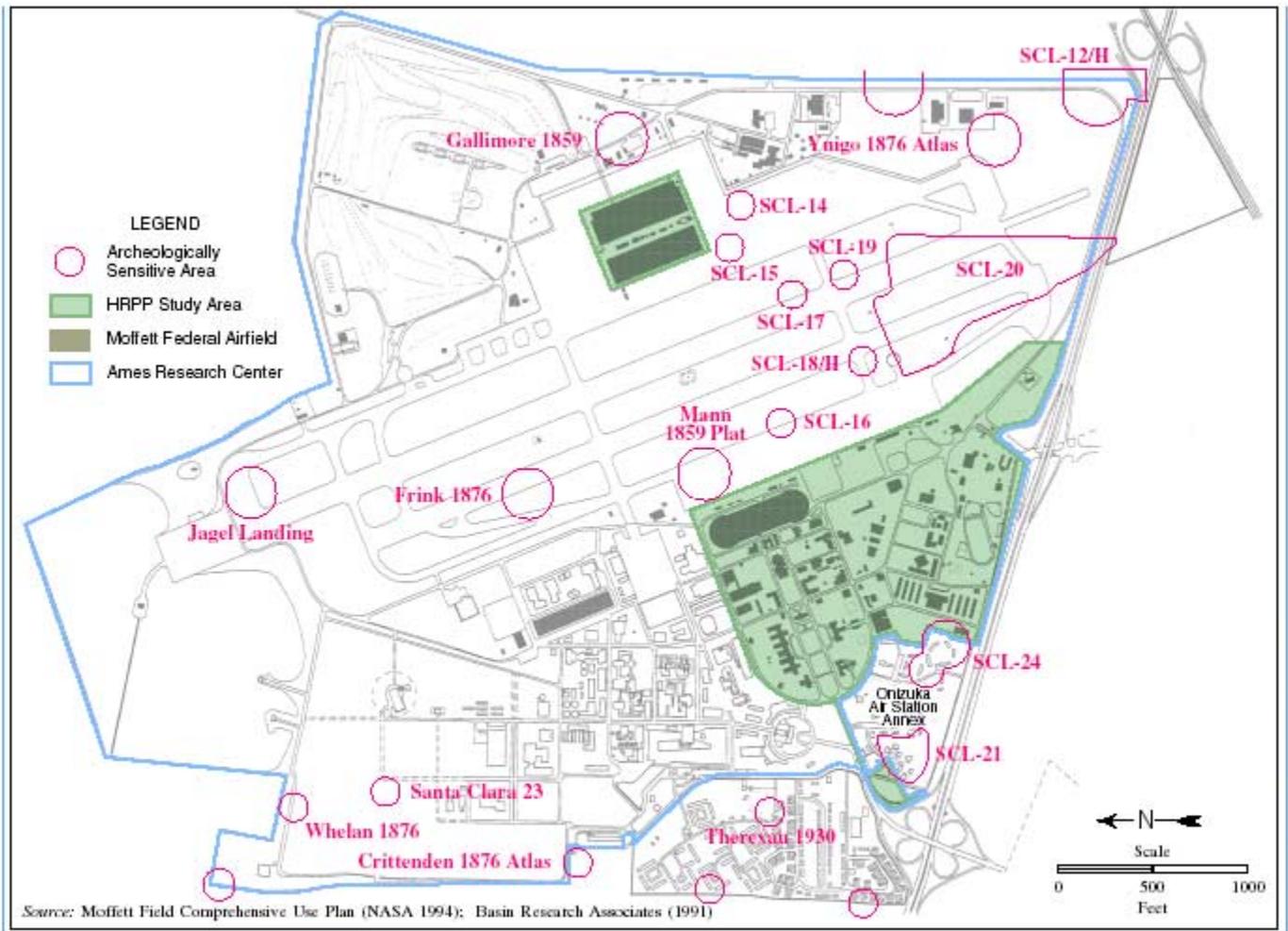


Figure 4-1 Archeological Sensitivity Areas on NASA Ames Research Center, Moffett Field

## 5 INVENTORY OF HISTORIC RESOURCES

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Several surveys of historic resources to determine their eligibility for listing on the NRHP have been undertaken at Moffett Field. In 1991, Bonnie Bamburg of Urban Programmers surveyed all buildings within the former NAS Moffett Field that were over 50 years of age. She determined that a number of resources would qualify as a potential NRHP district. This district was listed on the NRHP in 1994 and was named the Shenandoah Plaza Historic District in honor of the first rigid dirigible constructed. DPR forms for buildings and structures within the Historic District (with the exception of Building 38, tennis courts) are provided in Appendix C.

During the writing of a draft Historic and Archeological Resources Protection (HARP) Plan in 1994, its author, Kathleen Kovar, surveyed four further buildings, dating from 1943 to 1945, that had reached the 50 year mark of eligibility for being evaluated for the NRHP. These four buildings, 49 (now 650), 69, 77, and 83, were determined ineligible for the NRHP because of alterations or lack of architectural significance (HARP 17-18). This determination was not sent to the SHPO for concurrence. DPR 523 forms and evaluations for these buildings have been prepared as part of the HRPP (see Appendix C).

In 1999, Science Applications International Corporation (SAIC) conducted a Cold War survey of all buildings at Moffett Federal Airfield dating from the Cold War era, 1946-1989 (SAIC 1999). This survey of 124 resources concluded that none of the buildings at Moffett Field reached the level of *exceptional* significance required under Criterion G to make them eligible for the NRHP. Criterion G of the NRHP stipulates that if a property is less than 50 years old, it is eligible for the NRHP only if it is of exceptional significance. Twenty buildings were identified as associated with the Cold War Navy P-3 Orion anti-submarine warfare mission, but all had been altered and were no longer significant. The SHPO has concurred with this evaluation. DPR 523 forms were included with the Cold War report. A copy of the 1999 report is provided under separate cover (see Appendix F).

In 1999, during the preparation of the HRPP, the authors discovered that buildings 82, 111, 113, 118, 119, and 343 within the 60-acre HRPP site, although mentioned in the 1991 Historic Survey, had not been evaluated. DPR 523 forms have been prepared for these buildings and evaluations were made (see Appendix C). None of these structures appear to be eligible for the NRHP.

It was also discovered that facilities 104, 108, 381, 431/432, 438, 493, 534, 571, 585, 590, 964/965, and 966/967 had not been evaluated. Buildings 104 and 590 are electric substations; buildings 493 and 534 are picnic/barbecue shelters; building 108 is a swimming pool; buildings 381 and 585 are covered storage; buildings 431/432 are gas pumps; building 438 is an abandoned washrack; buildings 571 and 964/965 are tennis courts; and buildings 966/967 are softball fields. All these are considered unremarkable. They are support facilities found at any Navy installation regardless of mission. These appear in Table 5-3. DPR forms were not prepared for them. None of these structures appear to be eligible for the NRHP.

Additionally, in the interests of future planning by NASA, this HRPP also evaluated several buildings and structures outside the HRPP area but within Moffett Federal Airfield that had not been evaluated in the previous surveys. These included properties constructed between 1933 and 1943. DPR 523 forms were prepared for these buildings, 27, 28, 69, 70 -74, and 328, and evaluations were made (see Appendix C). None of these buildings appear to be eligible for the NRHP.

## **5.1 CONTRIBUTING BUILDINGS WITHIN THE SHENANDOAH PLAZA NRHP DISTRICT**

Forty-three buildings, structures and objects, 22 of which are under NASA stewardship (the others are under Onizuka Air Force authority and are therefore not contained in this HRPP) were determined eligible for the NRHP as a district. The Shenandoah Plaza Historic District is significant at the national level under Criterion A for its association with the expanding coastal defense capabilities of the U.S. Navy, and with airship technology during the inter-war era between 1932 and 1945. The Sunnyvale Naval Air Station was built in 1933 to support the development of “lighter-than-air” dirigibles used to patrol the Pacific coast.

The district is also significant under Criterion C, for its distinctive Mediterranean or Spanish Colonial Revival-style buildings popular in California in the 1920s and 1930s (see Appendix D for examples). These buildings have neutral colors, red tile roofs, architectural moldings, and residential-scale proportions. The grid layout and landscaping, based on the 1933 site plan, is also significant as representative of the Navy Bureau of Yards and Dock’s adherence to good planning design. The plan is axial, with vistas culminating at Hangar 1, the dominant feature of the base. The major administrative buildings are arranged symmetrically along the central plaza, with the horseshoe shape unifying and enclosing the landscape. Broad expanses of lawn and rows of mature liquid amber trees contribute to the park-like feeling of the District. The grid layout and landscaping has not changed dramatically over the years (see Figure 5-1).

Although a number of the Spanish Colonial Revival-style buildings have distinctive interior elements, only the exterior of the buildings are considered significant in terms of the NRHP.

The significant buildings, structures and objects in the Shenandoah Plaza Historic District are listed in Table 5-1.

## **5.2 NON-CONTRIBUTING BUILDINGS WITHIN THE SHENANDOAH PLAZA HISTORIC DISTRICT**

Within the boundary of the historic district are 49 non-contributing buildings. Even though there are a large amount of non-contributing buildings within the historic district, they do not detract from the significance or integrity of the district because for the most part they are small ancillary buildings of utilitarian design located between Shenandoah Plaza and Hangar #1. Due to their size, and the fact that they continue the standard color scheme throughout, they do not overpower or detract from the historic elements of the district. These are listed in Table 5-2.



1991 View

Figure 5-1. Historic and Modern Views of NAS Moffett Field

**Table 5-1. Contributing Properties within Shenandoah Plaza Historic District  
Moffett Federal Airfield**

<i>Building Number</i>	<i>Building Name/ Historic Use</i>	<i>Year Built</i>	<i>Eligible</i>	<i>Reason</i>	<i>Source</i>
Hangar 1	Hangar 1	1933	Y	A,C	1
46	Hangar 2	1943	Y	A,C	1
47	Hangar 3	1943	Y	A,C	1
2	Balloon Hangar	1933	Y	A,C	1
5	Water Tower	1933	Y	A,C	1
10	Heat Plant	1933	Y	A,C	1
15	Fire Station/Laundry	1933	Y	A,C	1
16	Locomotive Crane Shed	1933	Y	A,C	1
17	Admirals Building	1933	Y	A,C	1
18	Aerological Center	1933	Y	A,C	1
19	Bachelor Enlisted Quarters	1933	Y	A,C	1
20	Bachelor Officers Quarters	1933	Y	A,C	1
21	Bachelor Officers Garage	1933	Y	A,C	1
22	Bachelor Officers Garage	1933	Y	A,C	1
23	Dispensary	1933	Y	A,C	1
24	Ambulance Garage	1933	Y	A,C	1
25	Bowling Alley/Theater	1933	Y	A,C	1
26	Gate House/Iron Fence	1933	Y	A,C	1
32	Floodlight Tower	1933	Y	A,C	1
33	Floodlight Tower	1933	Y	A,C	1
37	Scale House	1933	Y	A,C	1
40	Flagpole	1933	Y	A,C	1
55	Heat Plant for Hangars 2 and 3	1943	Y	A,C	1
	Anchor		Y	A,C	1
	Commons	1933	Y	A,C	1

Source: 1. Shenandoah Plaza Historic District Nomination Form, 1991

**Table 5-2. Non-Contributing Properties within Shenandoah Plaza Historic District  
Moffett Federal Airfield**

<i>Building Number</i>	<i>Historic Use</i>	<i>Year Built</i>	<i>Eligible</i>	<i>Reason</i>	<i>Source</i>
3	Officers Club	1933	No	Loss of integrity	1
6	Public Works/Storage	1933	No	Loss of integrity	1
12	Commissary	1933	No	Loss of integrity	1
13	Commissary Storage	1933	No	Loss of integrity	1
14	Library	1933	No	Loss of integrity	1
29	Office Equipment/Repair	1932	No	Loss of integrity	1
31	Commissary Storage	1933	No	Loss of integrity	1
34	Photo Shop	1934	No	Unremarkable	1
36	Sentry House Main Gate	1934	No	Loss of integrity	1
38	Tennis Courts	Unknown	No	Unremarkable	4
44	Storage	1942	No	Unremarkable	1
45	Public Works Paint Shop	1944	No	Unremarkable	1, 2
64	Ceramics Shop	1940	No	Unremarkable	1, 2
67	Post Office	1950	No	Unremarkable	5
76	Inspectors Office	1944	No	Loss of integrity	1
78	Telephone Switch Building	Unknown	No	Criterion G	4
79	Battery/ Supply Storage	1944	No	Unremarkable	1, 4
81	Maintenance Equipment	1944	No	Unremarkable	1
85	Metalizing Shop	1944	No	Unremarkable	1
93	Aircraft Welding Shop	1946	No	Unremarkable	3
126	Warehouse	1949	No	Unremarkable	3
133	Paint, Oil Storage	1950	No	Unremarkable, G	3
175	Line Maintenance Shelter	1956	No	Unremarkable, G	3
176	Line Maintenance Shelter	1956	No	Unremarkable, G	3
346/396	Line Maintenance Shelter	1950	No	Unremarkable, G	1, 3
350	Line Maintenance Shelter	1950	No	Unremarkable, G	1, 3
351	Line Maintenance Shelter	Unknown	No	Unremarkable, G	3
367	Unknown	1948	No	Unremarkable	1, 3
460	Storage	1950	No	Unremarkable, G	3
470	Public Works Storage	1933	No	Unremarkable	1, 2
472	Air Frames Shop	1961	No	Unremarkable, G	1, 3
478	Stand-by Generator	1963	No	Unremarkable, G	3
480	Racquetball Court	Unknown	No	Unremarkable, G	4
482	Painting, Washing Facility	1963	No	Unremarkable, G	3
498	Covered Storage	1965	No	Unremarkable, G	2
499	Covered Storage	1966	No	Unremarkable, G	1, 3
509	Unknown	1968	No	Unremarkable, G	3

*Source:* 1. Shenandoah Plaza Historic District Nomination Form (1991)  
2. NAS Moffett Field Historical Survey (1991)  
3. Final Inventory and Evaluation of Cold War Era Resources Moffett Federal Airfield (1999)  
4. Moffett Field Historic Resources Protection Plan, November (2000)  
5. Lorie Garcia's Building Evaluation (2000).

**Table 5-2. Non-Contributing Properties within Shenandoah Plaza Historic District  
Moffett Federal Airfield**

<i>Building Number</i>	<i>Historic Use</i>	<i>Year Built</i>	<i>Eligible</i>	<i>Reason</i>	<i>Source</i>
510	Unknown	1967	No	Unremarkable, G	3
527	Storage	1953	No	Unremarkable, G	3
539	Line Maintenance Shelter	1972	No	Unremarkable, G	1, 3
540	Line Maintenance Shelter	1972	No	Unremarkable, G	1, 3
542	Incinerator	1973	No	Unremarkable, G	3
566	Administration	1979	No	Unremarkable, G	3
567	Warehouse	1978	No	Unremarkable, G	3
569	Administration	1978	No	Unremarkable, G	3
570	Unknown	1978	No	Unremarkable, G	3
581	Sign Board	1982	No	Unremarkable, G	3
941 (241)	Administrative Office	1940	No	Loss of integrity	1, 2
942 (242)	Navy Exchange	1940	No	Loss of integrity	1, 2
<i>Source:</i> 1. Shenandoah Plaza Historic District Nomination Form (1991) 2. NAS Moffett Field Historical Survey (1991) 3. Final Inventory and Evaluation of Cold War Era Resources Moffett Federal Airfield (1999) 4. Moffett Field Historic Resources Protection Plan, November (2000)					

### **5.3 INELIGIBLE BUILDINGS FOR THE NRHP OUTSIDE THE DISTRICT, WITHIN HRPP JURISDICTION**

Additionally within the HRPP study area, but outside the historic district, 74 properties were found ineligible for the NRHP during the Cold War survey or during the preparation of the HRPP. These properties are listed in Table 5.3.

**Table 5-3. Ineligible Buildings and Structures Outside Shenandoah Plaza Historic District, within HRPP Jurisdiction, Moffett Federal Airfield**

<i>Building Number</i>	<i>Historic Use</i>	<i>Year Built</i>	<i>Eligible</i>	<i>Reason</i>	<i>Source</i>
50	Communications	1958	No	Unremarkable, G	3
77	Sentry House, South Gate	1944	No	Unremarkable	2, 4
82	Athletic Storage	1944	No	Unremarkable	4
83	Line Operations	1944	No	Unremarkable	1, 4
104	Distribution Substation	1943	No	Unremarkable	4
107	Administration	1948	No	Unremarkable, G	3
108	Swimming Pool	1948	No	Unremarkable, G	4
109	Pool House	1948	No	Unremarkable	3
111	Transportation Storage	1944	No	Unremarkable	4
113	Storage	1990s	No	Unremarkable, G	4
118	Line Maintenance Shelter	1944	No	Unremarkable	4
119	Line Maintenance Storage	1944	No	Unremarkable	4
146	Public Works Garage	1952	No	Unremarkable, G	3
148	Barracks	1953	No	Unremarkable	5
149	Barracks	1953	No	Unremarkable	5
150	Barracks	1953	No	Unremarkable	5
151	Barracks	1953	No	Unremarkable	5
152	Enlisted Men's Diner	1953	No	Unremarkable,	5
153	Barracks	1953	No	Unremarkable,	5
154	Barracks	1953	No	Unremarkable,	5
155	Barracks	1953	No	Unremarkable,	53
156	Barracks	1953	No	Unremarkable,	3
158	Flight Operations	1954	No	Unremarkable	5
161	Gas Station	1952	No	Unremarkable, G	3
184	Unknown	1955	No	Unremarkable, G	3
329	Receiver Building	1958	No	Unremarkable, G	3
331	Unknown	1958	No	Unremarkable, G	3
343	Riggers Shop	1942	No	Unremarkable	4
347	Line Operations Storage	1942	No	Unremarkable	4
381	Covered Storage	Unknown	No	Unremarkable	4
382	Line Operations Shelter	1950	No	Unremarkable, G	3
400	Unknown	1958	No	Unremarkable, G	3
431/432	Fueling Station	Unknown	No	Unremarkable	4
438	Vehicle Washrack	Unknown	No	Unremarkable	4
454	Transmission Building	1960	No	Unremarkable, G	3
459	Unknown	Unknown	No	Unremarkable, G	3
463	Communications Antenna	1960	No	Unremarkable, G	3

**Table 5-3. Ineligible Buildings and Structures Outside Shenandoah Plaza Historic District, within HRPP Jurisdiction, Moffett Federal Airfield**

<i>Building Number</i>	<i>Historic Use</i>	<i>Year Built</i>	<i>Eligible</i>	<i>Reason</i>	<i>Source</i>
<i>Source:</i> <ol style="list-style-type: none"> <li>1. Shenandoah Plaza Historic District Nomination Form (1991)</li> <li>2. NAS Moffett Field Historical Survey (1991)</li> <li>3. Final Inventory and Evaluation of Cold War Era Resources Moffett Federal Airfield (1999)</li> <li>4. Moffett Field Historic Resources Protection Plan, November (2000)</li> <li>5. Lori Garcia's Evaluation Report, November (2000)</li> </ol>					

**Table 5-3. Ineligible Buildings and Structures Outside Shenandoah Plaza Historic District, within HRPP Jurisdiction, Moffett Federal Airfield**

<i>Building Number</i>	<i>Historic Use</i>	<i>Year Built</i>	<i>Eligible</i>	<i>Reason</i>	<i>Source</i>
464	Unknown	1964	No	Unremarkable, G	3
476	Exchange	1964	No	Unremarkable, G	3
493	Covered Picnic Area	Unknown	No	Unremarkable	4
503	Gas Station	1966	No	Unremarkable, G	3
512 A, B, C	Barracks	1970	No	Unremarkable, G	3
525	Bowling Alley	1970	No	Unremarkable, G	3
526	Storage	1976	No	Unremarkable, G	3
529	Exchange Warehouse	1970	No	Unremarkable, G	3
533	Bathroom	1971	No	Unremarkable, G	3
534	Barbecue Shelter	Unknown	No	Unremarkable	4
543	Craft Hobby Shop	1973	No	Unremarkable, G	3
544	Auto Hobby Shop	1974	No	Unremarkable, G	3
547 B, C, D, E	Living Quarters	1974	No	Unremarkable, G	3
554	Exchange	1975	No	Unremarkable, G	3
555	Administration	1984	No	Unremarkable, G	3
556	Credit Union	1979	No	Unremarkable, G	3
571	Tennis Courts	Unknown	No	Unremarkable	4
572	Handball Courts	1963	No	Unremarkable, G	3
574	Oil, Tire Storage	1982	No	Unremarkable, G	3
582	Marquee	1982	No	Unremarkable, G	3
583 A, B, C	Living Quarters	1985	No	Unremarkable, G	3
585	Vehicle Wash Platform	Unknown	No	Unremarkable	4
590	Transformer	Unknown	No	Unremarkable	4
596	McDonalds Restaurant	1985	No	Unremarkable, G	3
950	Hazardous Materials Storage	1989	No	Unremarkable, G	3
951 (251)	Unknown	1957	No	Unremarkable, G	3
943 (243)	Administration	1941	No	Unremarkable	2, 4
943A	Space Camp	1990s	No	Unremarkable, G	4
944 (244)	Recreation Center	1941	No	Unremarkable	2, 4
945 (245)	Field House`	1941	No	Unremarkable	2, 4
956	Parachute Loft	1957	No	Unremarkable, G	3
956A	Unknown	Unknown	No	Unremarkable, G	3
958	Vehicle Shed	1956	No	Unremarkable, G	3
964-965	Playing Courts	1942	No	Unremarkable	4
966-967	Softball Fields	1957	No	Unremarkable, G	4
992	Unknown	1957	No	Unremarkable, G	3
TA37A-37D	Dormitories	1990s	No	G	4

**Table 5-3. Ineligible Buildings and Structures Outside Shenandoah Plaza Historic District, within HRPP Jurisdiction, Moffett Federal Airfield**

<i>Building Number</i>	<i>Historic Use</i>	<i>Year Built</i>	<i>Eligible</i>	<i>Reason</i>	<i>Source</i>
<i>Source:</i> 1. Shenandoah Plaza Historic District Nomination Form (1991) 2. NAS Moffett Field Historical Survey (1991) 3. Final Inventory and Evaluation of Cold War Era Resources Moffett Federal Airfield (1999) 4. Moffett Field Historic Resources Protection Plan, November (2000)					

# 6 STANDARD OPERATING PROCEDURES

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Federal regulations require that standards of preservation and protection be applied while taking into consideration the economic and technical feasibility of each project. NASA Ames Research Center encourages practical rehabilitation and adaptive reuse of historic properties. In addition, any property that may qualify for inclusion in the National Register must not be inadvertently transferred, sold, demolished, substantially altered or allowed to deteriorate significantly. The following sections identify standard operating procedures to ensure the protection and preservation of historic properties within the Shenandoah Plaza Historic District and other areas within HRPP study area.

## 6.1 MANAGEMENT GOALS AND POLICIES FOR THE SHENANDOAH PLAZA HISTORIC DISTRICT

The following goals and policies for historic preservation of the Shenandoah Plaza Historic District have been adapted from *The Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings* (1992).

1. Every reasonable effort shall be made to provide compatible uses for the historic resources to minimize the need to alter elements of the building, site, or district.
2. The distinguishing original qualities or character of contributing buildings or structures within the district shall be retained.
3. Preservation efforts shall be concentrated on Contributing buildings rather than Non-Contributing buildings.
4. The removal or alteration of any exterior or interior character-defining features or material shall be avoided.
5. Reinforcement required for structural stability or the installation of protective or code required mechanical systems or access shall be concealed wherever possible. At the very least, such required modifications shall be designed to be compatible and integrated with the resource and district. Exterior additions of such equipment shall be painted to match existing resources.
6. Existing landscaping including plants, trees, lawns, fencing, walkways, and streetlights are significant resources and shall be carefully preserved and maintained. Changing the appearance of the site by removing trees, walkways, and other elements without evaluating their contextual importance to the district shall be avoided.
7. Decisions regarding improvements shall be based on knowledge of the past appearance of the property by reviewing photographs, drawings, and original site plans. Any improvements shall be compatible with the district.

8. The open space of the central plaza is a significant resource and shall be kept free of additional buildings, structures, monuments, or memorials. The single monumental flagpole in front of building 17 should remain the sole focus of the open space.
9. Building signage on the plaza shall be kept as small-scale as possible so as not to compete with the architecture and feeling of the district. Signage shall convey its message but maintain a low profile. Signage shall be in the original color scheme of blue and gold.

## 6.2 NATIONAL REGISTER RESOURCE TREATMENT CATEGORIES FOR THE SHENANDOAH PLAZA HISTORIC DISTRICT

To provide an appropriate level of protection for National Register resources within the Shenandoah Plaza Historic District in a cost-effective manner, the HRPP has followed a system of National Register Treatment Categories based on those developed by the various branches of the Department of Defense. This HRPP categorizes all properties within the project area. National Register eligibility has been determined for all the Shenandoah Plaza buildings, yet within this group there is flexibility for determining treatment categories. Categories are determined by considering the property's *relative significance* compared to other NRHP properties on the site and its *contemporary value* in terms of adaptive reuse (Department of the Navy 1997). The system is based on the premise that preservation actions should vary according to the nature of the resource. Each treatment category proposes a particular level of preservation treatment suitable for the significance of the resources within it.

All undertakings that may affect the Historic District shall implement the following treatments.

### CATEGORY I

**Basis for Inclusion.** Category I resources are listed on the NRHP as part of the Shenandoah Plaza Historic District and have been classified as being of outstanding architectural, engineering, and/or historical significance. They are of major importance, and have retained integrity of materials, design, and context. The following buildings are listed in Category 1:

Building 1. Hangar	Building 23: Administration
Building 2. Gymnasium	Building 25: Administration
Building 10: Heat Plant	Building 32: Storage
Building 17: Administration	Building 33: Storage
Building 18: Administration	Building 46: Hangar
Building 19: Administration	Building 47: Hangar
Building 20: Housing	Commons
Building 21: Garage	Flagpole
Building 22: Garage	

**Treatment.** Treatment for Category I buildings shall follow *The Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings* (1992), the California State Historical Building Code, and the forthcoming *Design Guidelines for Rehabilitating Historic Buildings within the Shenandoah Plaza Historic District*. The most stringent treatment should be followed.

**New Use.** Category I buildings shall be placed in a new use that requires minimal changes to the defining characteristics of the building and its site and environment.

**Maintenance and Repair.** Significant exterior and interior features of Category I buildings shall be preserved. The removal of historic materials or alteration of character-defining features and spaces shall be avoided. Deteriorated historic features shall be repaired rather than replaced. If the feature must be replaced, the new feature shall match the old in design, color, texture, and, where possible, materials. Chemical treatments, such as sandblasting, that could cause damage to historic materials, shall not be used.

**New Additions.** New additions and exterior alterations shall not be added to Category I buildings unless required for disabled access, and life safety reasons, including seismic protection. Access compliance should follow The State Historical Building Code to minimize impacts to the exterior of the building. In this case any additions shall be made on secondary facades where their presence will not destroy historic materials that characterize the buildings. Adjacent new construction shall be differentiated from the old yet be compatible with the massing, size, scale and architectural features of Category I buildings to protect the historic integrity of the district. Adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the district and its environment would be unimpaired. New lighting shall be consistent with existing lighting. No new signs shall be affixed to the walls of Category I buildings. New signage shall be lawn signs consistent with those existing within the district.

For each action other than maintenance that may affect a Category I building, provide notice including a written description of the proposed action to the SHPO and any other interested party. Thirty days must be afforded for response before NASA makes a decision as to whether to proceed with the action. Should NASA receive an objection to its proposed decision within the time period specified in its notice to the SHPO, then NASA shall implement the dispute resolution provisions of the Programmatic Agreement.

## CATEGORY II

**Basis for Inclusion.** Category II resources are listed on the NRHP as part of the Shenandoah Plaza Historic District and have been classified as being of lesser architectural, engineering or cultural significance and/or of less integrity because of alterations or modifications. The following buildings are listed in Category II:

Building 5: Water Tank	Building 37: Scale House
Building 15: Security	Building 55: Heating Plant
Building 16: Carpenter's Shop	Anchor: Plaza

Building 24: Offices	
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**Treatment.** The same guidelines apply as for Category I buildings, but may be less stringently interpreted. Treatment for Category II buildings shall follow *The Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings* (1992), the California State Historical Building Code.

**Maintenance and Repair.** Significant exterior features of Category II buildings shall be preserved. The removal of historic materials or alteration of character-defining features and spaces shall be avoided. Deteriorated historic features shall be repaired rather than replaced. If the feature must be replaced, the new feature shall match the old in design, color, texture, and, where possible, materials. Chemical treatments, such as sandblasting, that could cause damage to historic materials, shall not be used.

**New Additions.** New additions or exterior alterations for new use are permissible on Category II buildings, but shall not destroy character-defining features. New construction shall be differentiated from the old yet be compatible with the massing, size, scale and architectural features to protect the historic integrity of the district. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the district and its environment would be unimpaired. New lighting shall be consistent with existing lighting. No new signs shall be affixed to the walls of Category II buildings. New signage shall be lawn signs consistent with those existing within the district.

For each action other than maintenance that may affect a Category II building, provide notice including a written description of the proposed action to the SHPO and any other interested party (if any). Thirty days must be afforded for response before NASA makes a decision as to whether to proceed with the action. Should NASA receive an objection to its proposed decision within the time period specified in its notice to the SHPO, then NASA shall implement the dispute resolution provisions of the Programmatic Agreement.

### CATEGORY III

**Basis for Inclusion.** Category III resources do not meet NRHP criteria. These include non-contributing buildings within the Shenandoah Plaza District (found in Table 5-2).

**Treatment.** Federal stewardship requires proper maintenance of all NASA properties, but no special preservation measures are required. Exterior alteration of Category III buildings within the district, in close proximity to Category I and II buildings, or their demolition and replacement with new buildings, constitute actions that will trigger Section 106 requirements. For these actions, provide notice including a written description of the proposed action to the SHPO. Thirty days must be afforded for response before NASA makes a decision as to whether to proceed with the action. Should NASA receive an objection to its proposed decision within the time period specified in its notice to the SHPO, then NASA shall implement the dispute

resolution provisions of the Programmatic Agreement. Demolition without replacement would not require consultation with the SHPO.

#### **CATEGORY IV**

*Basis for Inclusion.* Category IV resources do not meet NRHP criteria. These include buildings outside the historic district that have been determined to be non-significant by virtue of a Cold War survey (1998) or during an assessment made for this HRPP (found in Table 5-3).

*Treatment.* Federal stewardship requires proper maintenance of all NASA properties, but no special preservation measures are required. No consultation with the SHPO is required for demolition or new construction.

### **6.3 LEASE OR TRANSFER OF HISTORIC PROPERTIES**

Lease agreements for short-term and long-term leasing or licensing of buildings and areas within the Shenandoah Plaza Historic District shall be consistent with SHPO-approved lease agreements (see Appendix E). Specifically, lease agreements and special event licenses for all contributing buildings within the Shenandoah Plaza Historic District shall minimally stipulate the following:

Under this Agreement, [lessee] will occupy an historic building that has been listed in the National Register of Historic Places. [Lessee] understands NASA's responsibility to preserve this historic property, as outlined in the National Historic Preservation Act (16 U.S.C. 470). As a tenant of a historic building, [lessee] agrees that all modifications and improvements to the facility must receive prior approval from NASA before implementation. Because the facility is a historic property, NASA will not approve any modifications and improvements to the facility that do not conform to the *Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings* (1992), and *Design Guidelines for Rehabilitating Historic Buildings within the Shenandoah Plaza Historic District* (1999). Should any modifications and improvements compromise the integrity of the historic building, [lessee] will be responsible for returning the facility to the condition that existed at the time of occupancy.

Furthermore, as a tenant of a historic building, [lessee] agrees to work with NASA Ames, the Advisory Council on Historic Preservation, and the State Historic Preservation Office to ensure the preservation of the historic integrity of the property. Applicable rules, regulations and guidelines that are designed to ensure the preservation of the historic integrity of the building(s) have been provided to [lessee] and [lessee] agrees to follow these rules, regulations and guidelines.

Lease agreements and special event licenses for all non-contributing buildings within the Shenandoah Plaza Historic District (Category III) shall minimally stipulate the following:

Under this Agreement [lessee] will occupy a non-contributing building within an historic district listed in the National Register of Historic Places. As a tenant of such a building, [lessee] agrees that all exterior modifications and improvements to the building or facility must receive prior approval from NASA before implementation. If the building is adjacent to a Category I or Category II building within the District, NASA will not approve any modifications and improvements to the facility that do not conform to the *Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings* (1992), and *Design Guidelines for Rehabilitating Historic Buildings within the Shenandoah Plaza Historic District* (1999).

#### **6.4 PROCEDURES FOR INADVERTENT DISCOVERY OF CULTURAL RESOURCES**

No archeological resources are known to occur within the HRPP study area. However, prehistoric and historic use of the Moffett Field vicinity is well documented and as yet unidentified buried archeological resources could be encountered during ground disturbing activity. To ensure that all such resources are properly identified, evaluated and treated (if necessary), the following measures will be initiated:

1. Specific language should be included in the General Specifications section of any contract requiring excavation in regard to the required protection of cultural resources and the procedures to be followed by the contractor in an unexpected discovery situation.
2. NASA should develop an Unexpected Discovery Plan to deal with the inadvertent exposure of subsurface archeological resources during construction, in accordance with 36 CFR 800.11.
3. In lieu of a formal Unexpected Discovery Plan, any construction operations should stop within 3 meters (10 feet) of the exposure of any unanticipated archeological materials and a qualified archeologist should be contacted to evaluate the materials and recommend an appropriate treatment for them (see 36 CFR 800.11.1).
4. It is not considered that there is a high potential for inadvertent exposure of prehistoric Native American skeletal remains and associated grave goods at Moffett Field. However, the region's Native Americans consider the graves of their ancestors to be to be of utmost importance. The remains and the offerings buried with them are sacred to the Native Americans, and there is a strong desire among this community to prevent disturbance of burial sites. The Native American Graves Protection and Repatriation Act (NAGPRA; Section 3) requires federal agencies to consult with likely descendants and Indian tribes prior to intentional excavation, and requires cessation of activity and notification of tribes when there is an inadvertent discovery of Native American skeletal remains on federal land. The State of California Native American Heritage Commission (ATTN: Executive Secretary, 915 Capitol Mall, room 288, Sacramento, CA 95814) can provide a list of tribes and most likely descendants on request. In the event of discovery

of Native American skeletal remains, the implementing regulations 43 CFR 10, subpart B (Federal Register 60(232): 62134-62169, December 4, 1995) of NAGPRA shall be followed.

5. Curation of any recovered archeological materials not associated with Native American skeletal remains shall be curated in accordance with 36 CFR 79, Curation of Federally Owned and Administered Archeological Collections Final Rule (Federal Register 55(177): 37615-37639, September 12, 1990). Local repositories meeting the curation standards for archeological materials shall be selected over distant repositories whenever possible.
6. All archeological work shall be conducted under the direction of professional archeologists meeting the qualification standards described in Archeology and Historic Preservation; Secretary of the Interior'' Standards (*Federal Register* 48(190): 44716-44742, September 29, 1983).

## **6.5 COORDINATION OF HRPP AND OTHER EXISTING PLANS**

Appendix D of this HRPP provides design guidelines for new construction within the Shenandoah Plaza Historic District. To provide comprehensive management guidance, final *Design Guidelines for Rehabilitating Historic Buildings within the Shenandoah Plaza Historic District* are attached as Appendix H to the report.

The NASA Ames Research Center's pending Partner Handbook should be revised to include and be consistent with the HRPP and all associated guidelines. Particular documents that should be revised, include but are not necessarily limited to the following:

- Agreements should incorporate language noted above in Section 6.3 to prevent a lessee or licensee from making improvements or modifications to the Historic District that (1) Are not approved by NASA prior to construction and (2) Do not conform to the HRPP, its design guidelines, and the *Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings* (National Park Service 1992).

## **6.6 FIVE YEAR HRPP UPDATES**

NASA Ames Research Center shall review and update this HRPP at least every five years. Chapter 1 Goals and Objectives and Chapter 2 HRPP Priorities must be periodically re-evaluated in light of accomplishments and problems encountered during implementation. When stated goals and objectives are met, new goals and priorities may be identified. NASA personnel should note any difficulties in using the Standard Operating Procedures and modify them in consultation with the SHPO to make them more effective.

## **6.7 HRPP PLAN ENDORSEMENTS**

A draft Programmatic Agreement (PA) that has been endorsed by the NASA Ames Research Center Director is submitted to the SHPO for concurrence as Appendix G. The PA when executed by the Advisory Council on Historic Preservation, would demonstrate NASA's compliance with Section 106 of the NHPA.

To streamline compliance with Section 106 of the National Historic Preservation Act, NASA prepare entering into a Programmatic Agreement (PA) with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (Council) to implement this HRPP and its current and future appendices. When signed by NASA, the SHPO, and the Council, such a PA would permit NASA to implement the HRPP and use its historic properties with minimal and clearly defined consultation requirements. Appendix G contains a draft PA for SHPO's consideration.

# 7

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**PERSONAL COMMUNICATIONS**

W. Carl Honaker, NASA Moffett Liaison Office

## APPENDIX A

### ACTIONS NOT REQUIRING FURTHER CONSULTATION

All actions to ineligible buildings outside the Shenandoah Plaza Historic District, including demolition, are exempt from further consultation with the SHPO or the Council. The following actions to contributing and non-contributing elements within the Shenandoah Plaza Historic District will not require further consultation with the SHPO or the Council:

#### 1. *Architectural Elements:*

- A. DOORS
  - (1) Repair of existing materials.
  - (2) Replacement in kind when beyond repair and done in kind to match the existing material and form, or replacement to original door specifications.
- B. FOOTINGS, FOUNDATIONS, AND RETAINING WALLS
  - (1) Repair of existing materials.
  - (2) Replacement of those portions that have deteriorated beyond repair when done in kind to match the existing materials and form. Any associated mortar replacement shall be with a mortar mix that matches historic mortar mixes.
- C. GLASS
  - (1) Replacement of broken glass with clear glass of similar thickness when no modification or damage to adjacent surfaces will result.
- D. ROOFS
  - (1) Repair or replacement of roofs or parts of roofs to include downspouts, gutters, and catch basins that have deteriorated, when done in kind to match the existing material and design. Adequate anchorage of the roofing material to guard against wind damage and moisture penetration shall be provided.
- E. WINDOW FRAMES AND SASH
  - (1) Repair of window frames by patching, splicing, consolidating or otherwise reinforcing or replacing in kind those parts that are either extensively deteriorated or missing. No change in the exterior or interior appearance or the operation of the window shall result.
  - (2) Adjusting counterweights.
- F. WOOD SIDING, TRIM, VERANDA RAILS, VERANDA FLOORING, JOINTS, AND STAIRS (INCLUDING FRAMING)

(1) Repair of existing materials.

(2) Replacement in kind of only those elements that are beyond repair when done in kind to match existing materials, design, and specifications.

## **2. *Exterior Surfaces***

- A. Painting exterior surfaces when the new paint matches the existing or original color. Damaged or deteriorated paint will be removed by the gentlest means possible. Abrasive cleaning methods, such as sandblasting, that will damage the historic building materials will not be used.
- B. Replacement or installation of caulking and weather- stripping around windows, doors, walls, and roofs.
- C. Repairs including testing, remediation and abatement of lead-based paint when no visible contributing elements of a structure will be permanently altered.

## **3. *Utility Systems***

- A. Installation of mechanical equipment within buildings that is not visible.
- B. Replacement, removal or the upgrading of electrical wiring within buildings.
- C. Energy conservation actions to meet standard reductions in energy use that do not compromise the historic integrity of subject properties.

## **4. *Surrounding Features***

- A. Replacement of signs in kind to match existing materials and design.
- B. Ongoing maintenance of existing landscaping, including removal of dead, diseased, or hazardous vegetation.
- C. Removal of animal or bird debris without damaging adjacent surfaces.
- D. Repair or replacement of driveways and walkways done in kind to match existing materials and design.
- E. Repair or replacement of fencing done in kind to match existing material and design.

## **5. *New Materials***

- A. Installation of dry insulation provided an analysis of vapor migration has been made and vapor barriers are installed to prevent the retention of moisture within the installation or the building assembly.
- B. Installation of dead bolts, door locks, security lock systems, window latches and door peep holes, if done without compromising historic exterior doors; otherwise SHPO consultation is required.
- C. Installation of fire, smoke detectors, fire suppression systems, and security alarms, if done without impact to historic features.

- D. Installation of carpet over existing vinyl and/or vinyl asbestos flooring. Historic terrazzo, stone, and tile floors and stairs shall not be altered.
- E. Replacing of existing vinyl and/or vinyl asbestos floor tiles with sheet vinyl flooring.

**6. *Ground Disturbing Activities***

- A. Installation of utilities, such as sewer, water, storm, electrical, and gas lines.
- B. Tree removal when the trees are dead, diseased or hazardous.
- C. Excavation for the repair or replacement of building footings or foundation work.
- D. Testing and removal of toxic landfills, underground storage tanks, fuel lines and contaminated soil when these actions will not affect contributing buildings or structures or archaeologically sensitive areas.
- E. Regrading and resurfacing existing roads and parking areas providing that such activities are confined to previously disturbed ground surfaces;
- F. Landscaped areas affected by ground disturbing activities will be re-landscaped to match existing materials and design.

**7. *Interior Changes (for Non-Contributing Buildings only)***

- A. All interior maintenance and repair.
- B. All interior renovation.

**8. *Landscape Maintenance***

- A. Removal of vines that are damaging building materials by destroying the plant at the root and gently removing the vine after the plant has died and dried.
- B. Grass cutting.
- C. Hedge trimming.
- D. Tree pruning.

**9. *Pest Removal***

- A. Removal of pests, such as termites, insects, and rodents.

**10. *Leasing***

- A. Leasing or licensing for events less than 90 days, provided it is carried out in accordance with Section 6.3 of the HRPP.

**11. *Restoration Work***

- A. Restoration work to Buildings 17, 20, 21, 22, 23, 24, & 25 done in accordance with the re-use guidelines established by Architectural Resources Group (ARG), October 2000.
- B. Restoration work to Hangar One in accordance with re-use guidelines (appendix I) currently under preparation.

12. *Demolition*

- A. Demolition of non-contributing buildings in the Historic District.

*Appendix D*

Design Guidelines for New Construction  
in the  
Shenandoah Plaza Historic District  
Moffett Field, California



## INTRODUCTION

These draft design guidelines have been prepared to assist NASA professional staff, their architects, design consultants, and clients in preparing conceptual plans for any new construction within the Shenandoah Plaza Historic District, placed on the National Register of Historic Places in 1994. They are intended as an aide in determining acceptable design parameters to avoid incompatible uses, inappropriate locations of new buildings within the district and visually incompatible designs. The design of any new construction must be coordinated with the State Office of Historic Preservation. The SHPO has requested NASA to submit conceptual drawings early in the planning process.

The Secretary of the Interior is responsible for establishing standards for advising Federal agencies on the preservation of historical properties listed in the National Register of Historic Places. General guidance for Federal agencies to carry out their historic preservation responsibilities is found in *The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings (Standards)* (1992). The pertinent section of the *Standards* is Standard 9:

New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

Additional guidance is found in the *Standards* under the section "Setting. District or Neighborhood." The setting of the district – the relationship of the buildings to each other, setbacks, views, walkways, open space – should be maintained. New work in the district should be compatible with the historic character of the setting in terms of size, scale, design, material, color, and texture. New construction should not be visually incompatible with historic buildings.

The following design guidelines have been developed to make *The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings* specific to the Shenandoah Plaza Historic District. These guidelines are consistent with the *Moffett Federal Airfield Planning Guidelines and Standards* (1994) as well. These guidelines are prefaced by a discussion of existing conditions and an explanation of the design and layout of the historic district to provide a context for the design guidelines.

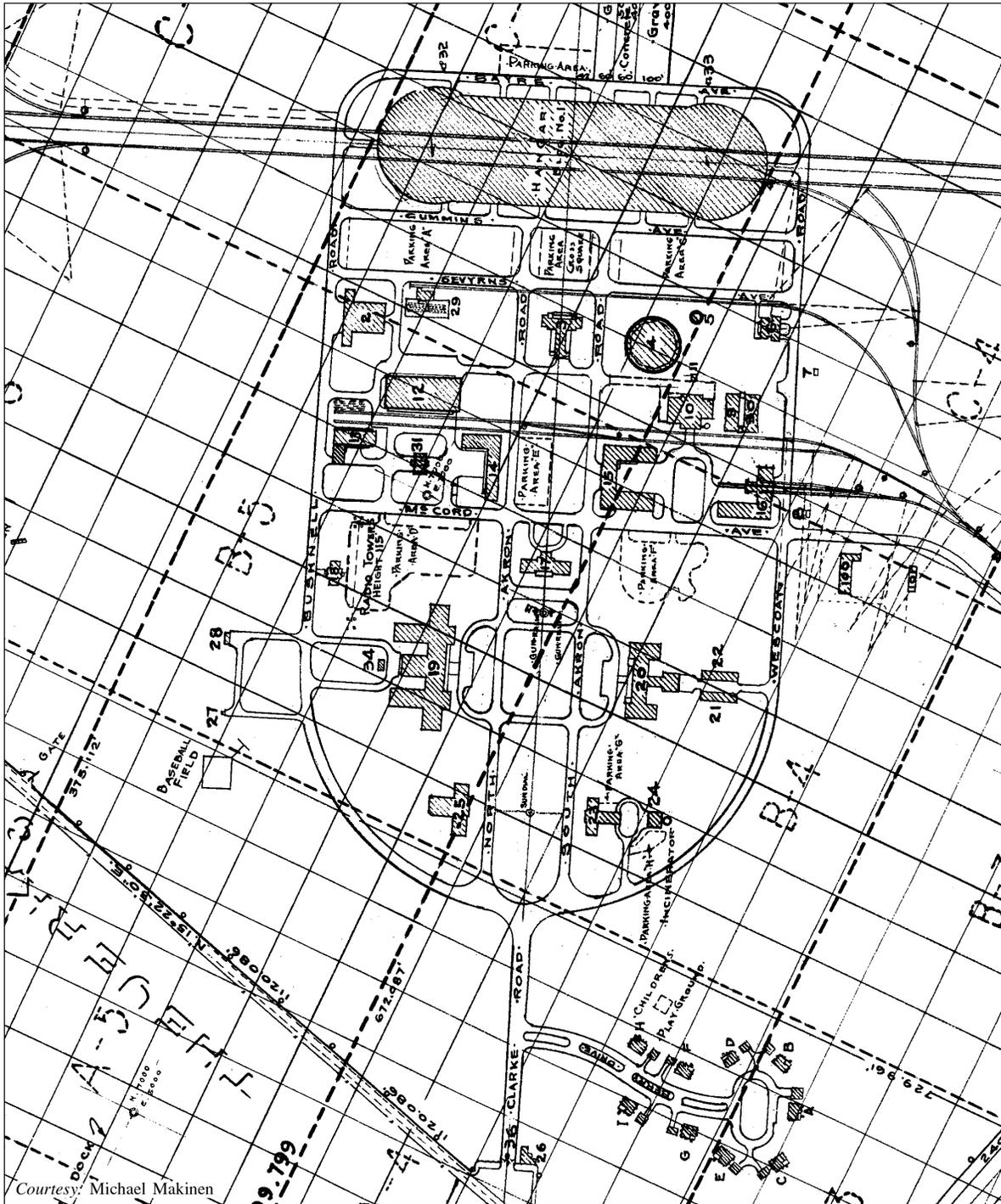
## SITE DESCRIPTION

The Shenandoah Plaza National Register Historic District boundary includes Hangar 1, with its ancillary buildings, Hangars 2 and 3 (Buildings 46 and 47) and their ancillary buildings, the buildings encompassed by the oval formed by Westcoat and Bushnell Roads, a narrow strip extending west to include the gate house, Building 26, at the entrance, and the roads, plaza and associated landscape features. The district was designed to include all the buildings originally constructed in 1933 for the U.S. Naval Station Sunnyvale, home of the giant lighter-than-air (LTA) rigid dirigible, the *USS Macon*, that was designed to scout for the Naval fleet in the Pacific Ocean.

A significant element of the district is its axial layout, with roads, landscaping and buildings arranged symmetrically to highlight the dominant feature, Hangar 1. Broad expanses of lawn and mature planting complement the Spanish Colonial Revival buildings. This architectural style, with classical Spanish ornamentation, was used by Bertram Goodhue in his designs for the 1915 San Diego Panama Pacific Exposition. The Navy first used this style at Chollas Heights Radio Transmission Station in 1916, followed by Goodhue's Marine Corps Recruit Depot in c. 1920 and the Naval Air Station North Island c. 1921 (Bamburg 1991). This form of Spanish Colonial Revival style was popular in the 1920s and 1930s. Its use by the Navy represented their commitment to proper site design, an outgrowth of the development of the precepts of urban design and planning during the Progressive era and the City Beautiful movement of the early twentieth century.

The buildings were arranged by function, with McCord Avenue as the point of demarcation. The public, administrative and residential buildings faced the central plaza west of McCord Avenue, and the original service and support buildings such as the shops, locomotive shed, gas ring, store houses, boilers, garages, gas station, fire station, and laundry, were grouped east of McCord Avenue. Although they were secondary buildings, nonetheless they were clustered around landscaped areas. Building 3, the café, had a long lawn to the west, that visually was an extension of the plaza. Buildings 10, 15, and 16 were grouped around a lawn. Buildings 13, 14, and 31 were arranged around an open area. The orientation of these buildings was towards the main roads adjacent to them: buildings 3 and 29 faced Severyns Avenue; buildings 6 and 16 faced Westcoat Road; buildings 14 and 15 faced North and South Akron Roads; and buildings 2 and 13 faced Bushnell Road. The plan also accommodated automobiles, with expansive parking areas provided adjacent to hangar 1 between Severyns Avenue and Cummins Road, and immediately west of McCord Avenue near buildings 17 and 19 (see Figure 1 for 1935 site layout and Figure 2 for a 1935 site photograph).

The differences between the public and service buildings are marked by differences in architectural style and landscaping. Public buildings, in the Spanish Colonial Revival style, have hipped or gable red tile roofs, stucco finished walls with projecting stringcourses and/or splashbands, 6/6 light windows in wood sash and frames, entrance arcades, wood panel doors with classical elaborated surrounds, and wrought iron lamps, hardware, and balconies. Service buildings, in a stripped Spanish style with details drawn from the classical or Mission Revival style, have flat roofs with articulated parapets, stucco walls with projecting stringcourses and/or splash bands, multi-paned windows in metal frames and sash, and recessed entries with wood or metal doors.



Courtesy: Michael Makinen

Figure 1. Map of Naval Station Sunnyvale, Mountain View California, June 30, 1935



**Figure 2. 1935 View of NAS Moffett Field**



**Figure 2a. Conceptual view of proposed in-fill buildings.**



**Building 25 shows the red tile roofs, stucco finish, projecting stringcourses, and entrance arcade typical of the Spanish Colonial Revival-style public buildings in the historic district**



**Building 2 shows the flat roofs, stucco finish, projecting stringcourses and industrial windows typical of the stripped Spanish-style service buildings in the historic district**



**This entrance to building 20 shows the wood doors and classical Spanish door surrounds typical of the Spanish Colonial Revival style buildings in the historic district**



**This entrance to building 10 shows the metal door and simple classical surround typical of the stripped Spanish style industrial buildings in the historic district**

## **GUIDELINES**

### **Site Plan**

In general, new buildings should complement, but not try to duplicate, the historic structures. New buildings should have their own distinctive appearance. They should play a subordinate role in the historic district.

A comprehensive site plan shall be prepared for the historic district showing proposed sites for new buildings, with orientation, location, size, and architectural design, landscaping, and parking areas indicated. The axial layout shall be maintained. Existing streets, with the exception of Dugan Road, shall be retained. Their width shall not be enlarged. No new construction shall take place west of McCord Avenue.

Figure 3 represents the proposed building envelopes for new construction in the Shenandoah Historic District. The proposed new construction will include a regional conference and training center and infill buildings in support of NASA's research and space technology development.

Existing landscaping shall be maintained. Replacement landscaping, when necessary, shall be in kind. New landscaping concepts, such as berms, shall not be introduced in the historic district. Plant selection for landscaping new construction shall be based on existing landscape in the district.

### **Orientation**

New buildings shall be oriented towards the street, with an articulated elevation facing the street. If a building is constructed on a corner lot, it shall have articulated entrances facing both streets. Blank walls shall not face the street.

### **Setbacks & Building Mass**

Setbacks for new buildings shall maintain the setbacks of existing buildings. Figure 4 provides guidelines for the required setbacks.

*Building allowable floor area ratio (F.A.R.) lot coverage and building mass will be determined and defined.*

### **Height Limits**

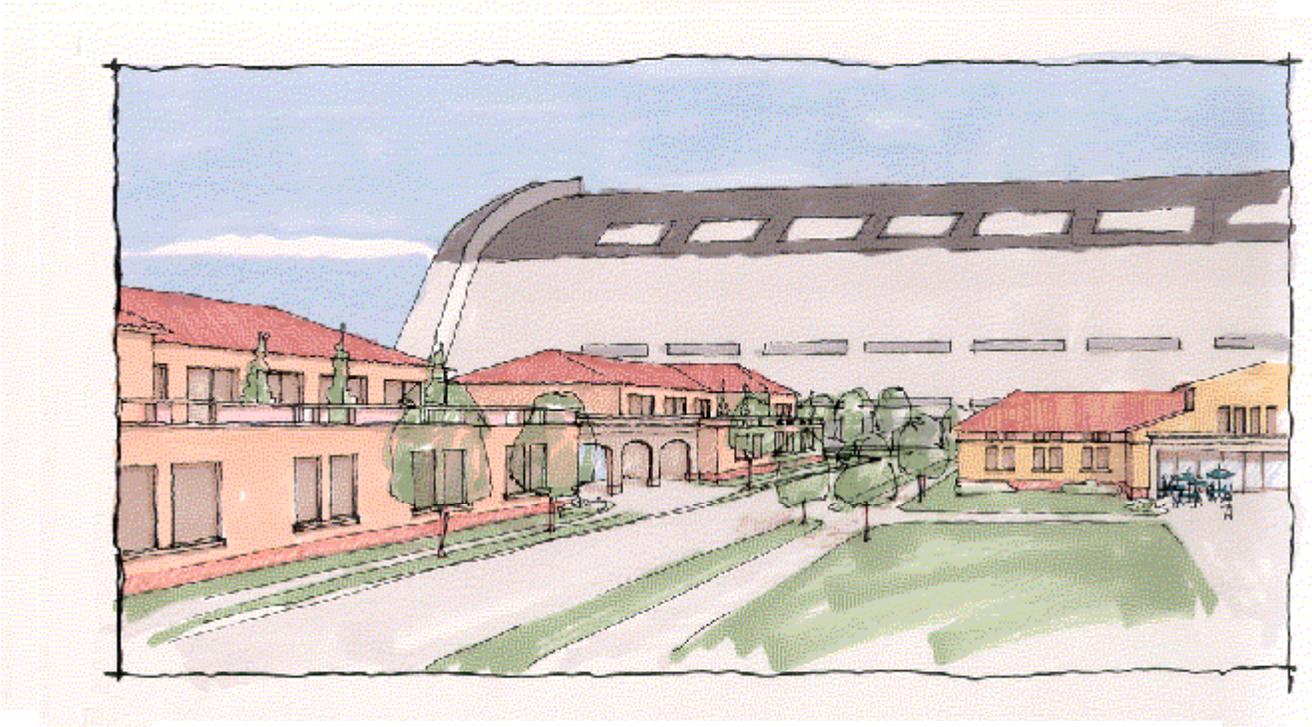
The buildings within the district are one- and two-stories in height, with the exception of Building 2 that is three stories in height (although only a single story of space on the interior). All of them maintain a human scale. New buildings shall be compatible in height with surrounding existing buildings. The height limits for new buildings, derived from the *Moffett Federal Airfield Planning Guidelines and Standards* are delineated in Figure 5.

### **Materials**

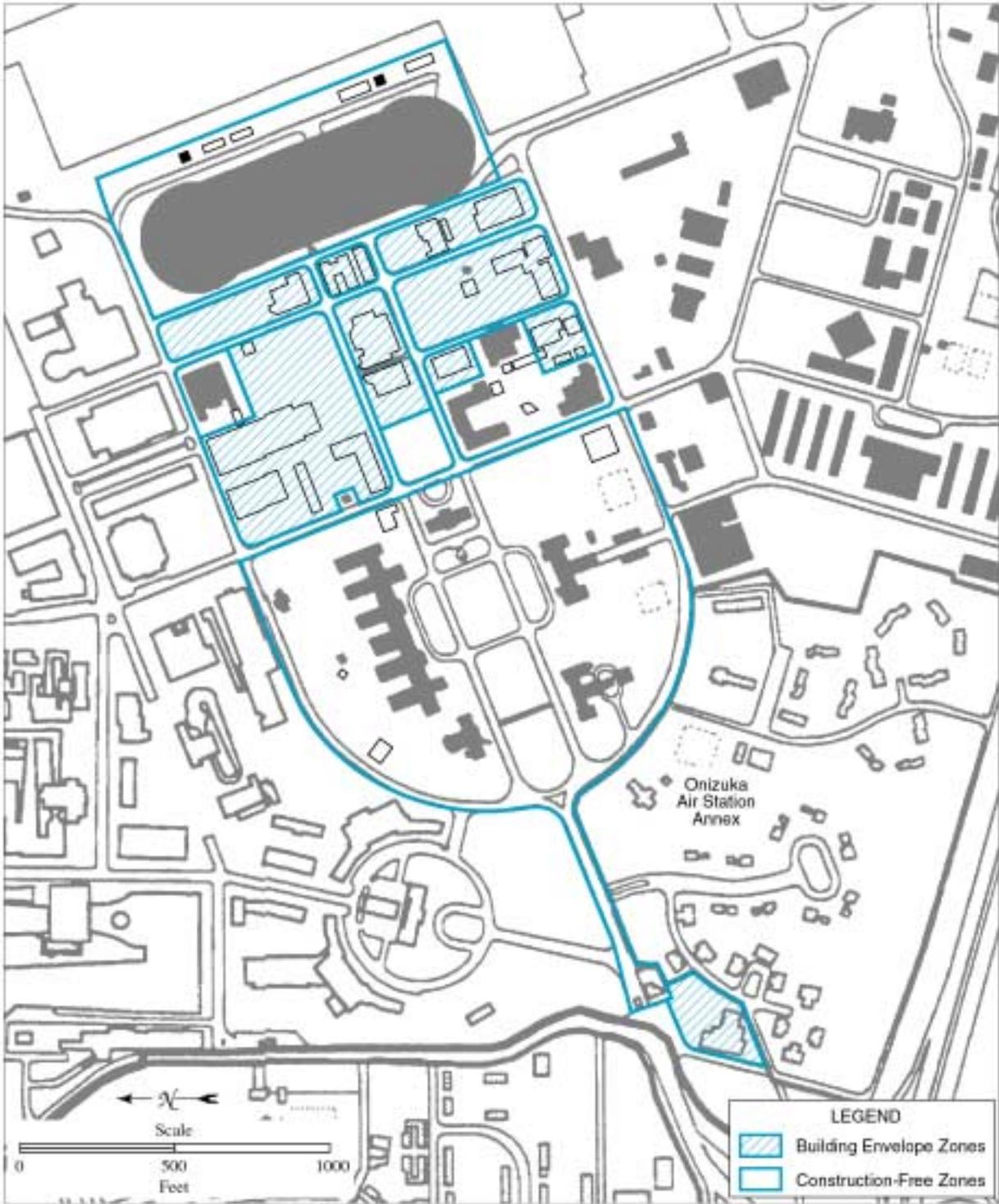
New buildings shall have a stucco exterior compatible with the existing buildings.

### **Architectural Styles**

The architectural style for new buildings shall be compatible with one of the two existing architectural styles within the historic district, classical Spanish Colonial Revival found west of McCord Avenue or the stripped-down Spanish style with Mission Revival or classical Spanish Colonial Revival details found in the industrial buildings east of McCord Avenue.



**Artist's rendering of proposed in fill construction (view from McCord Ave.)**



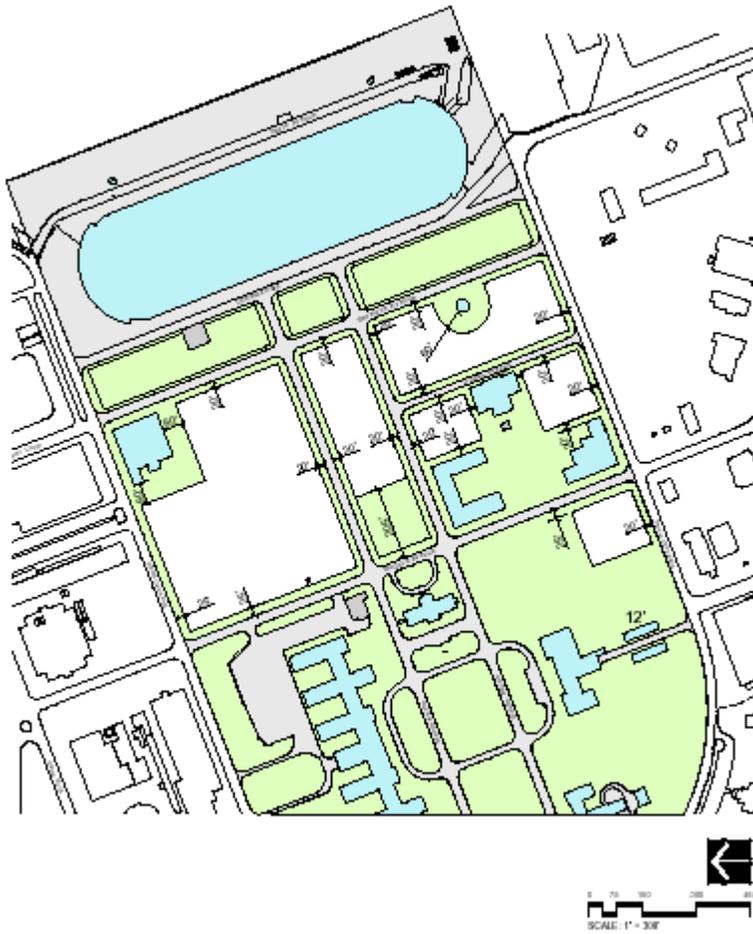
**Figure 3. Proposed Building Envelopes for New Construction**



**Building 17, at the head of the plaza, is representative of the public and residential buildings west of McCord Avenue designed in the Spanish Colonial Revival style with classical ornamentation.**



**Building 10, the original helium and boiler plant, with its simple massing and architectural details, is an example of the stripped down Spanish style located east of McCord Avenue.**



**Figure 4 Setbacks for New Construction in the Historic District**

## Size, Bulk, Scale

The size of the buildings within the historic district ranges from approximately 830 to 434,000 square feet. The footprint of the buildings varies, being either rectangular, L-shaped or irregular, with projecting wings or bays. New buildings shall be compatible with the size, bulk and scale of adjacent existing buildings. If the new buildings are large, they should borrow elements from existing buildings to break up the bulk and scale. High walls and great massing may be broken up with (a) buttresses (building 10); (b) projecting ells, bays or wings (building 19); (c) stringcourses that delineate a base, middle and top of a wall (building 2); (d) varying story heights (buildings 2, 10); horizontal or vertical bands of symmetrically placed windows (buildings 2, 12, 13) or (e) tower elements (building 17).

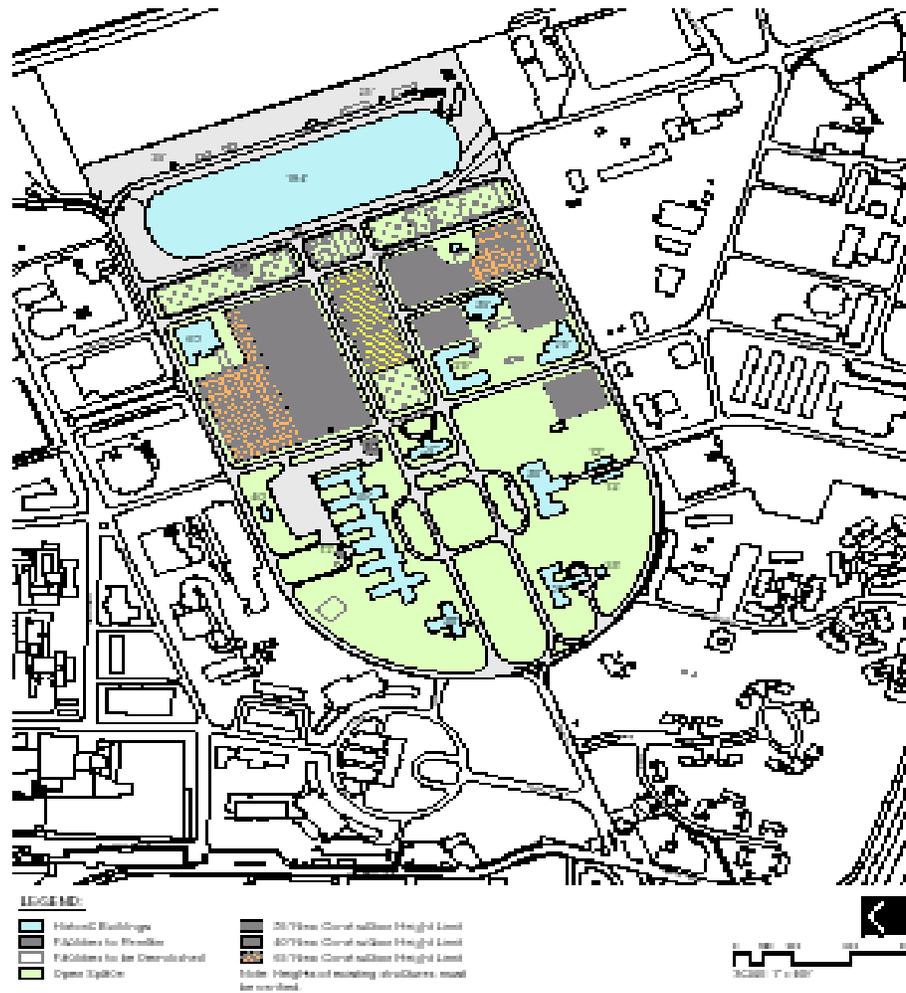


Figure 5. Height Limits for New Construction in the Historic District



**The massing of Building 12 is broken up with symmetrically placed windows and a projecting stringcourse**



**Building 10 has an irregular shape, with wings, varying stories, buttresses and projecting string courses breaking up the massing.**



**The height of building 2, the tallest building in the district, is broken up through irregular massing, wings, varied heights of stories, vertical bands of windows, and projecting string courses.**



**The large scale of building 19, the largest building in the district, is effectively broken up through the use of wings arranged along a central spine.**

## **Building Elements**

### *Roofs*

New buildings within the historic district shall have flat roofs or hipped or gabled red tile roofs. Mansard roofs shall not be used. Flat roofs may be ornamented with Mission Revival-style stepped parapet walls as decoration, or with a compatible design.



**The garages, buildings 21 and 22, have decorative stepped parapet walls.**



**Stepped corbels are used decoratively on the roofline of building 16,  
the former locomotive shed.**



### **Walls**

The articulation of the stucco-clad walls within the district is an important design feature. It includes the use of string courses and decorative cornice molding to break up the massing and delineate the base, column, and top of a building. Piers/buttresses are also used to lend visual variety to large walls.

Walls shall be articulated rather than plain. Such articulation may include string courses, cornice molding, or piers.

**The huge wall surface of building 2 is broken up with decorative stringcourses and cornice moldings.**



**Decorative piers/buttresses are used to great effect to break up the wall plane on building 10.**

### ***Openings***

Windows within the district are recessed, with flat or segmented arches. The windows have multi-light transoms or fixed panes. They are arranged symmetrically, either singly, paired, or as horizontal or vertical bands. Windows in the public buildings have six-over-six light double-hung windows.

**Window** openings shall be recessed, with flat or segmental arches and multi-paned lights. They shall be arranged symmetrically. Window frames and sash shall be wood or metal. If aluminum windows are used, their profile shall match that of the steel windows in existing buildings.



**Building 10 is a good example of recessed multi-paned windows  
in a segmented arch opening**



**Building 13 is a good example of recessed multi-paned windows arranged symmetrically in horizontal bands.**

Doors in the district are recessed in flat openings. Surrounds are either ornate classical Spanish Colonial Revival, simple plaster, or plain. Doors are wood or metal, often with multi-light glass.

**Door** openings shall be recessed or surrounded by a plaster molding. Doors shall be of wood or metal and may have multi-light glass upper windows. If aluminum is used, its profile shall match that of existing metal doors.



**The door surround of building 10 is raised, with a classical lintel. The door has a multi-light glass window in its upper half.**



**The recessed industrial door openings of building 24, although infilled for personnel doors, provide a pleasing symmetrical division of the wall.**



**The high overhead doors as well as the flanking personnel doors of building 16 have solid lower panels topped by multi-paned windows.**



**The recessed garage doors of building 22,  
with a double row of glass panes in the upper section, provide  
an example of original wood panel doors.**

# HRPP - Appendix E

The following covenants for the protection of historic resources have appeared in lease agreements executed by NASA and approved by the State Historic Preservation Officer. All future lease agreements for historic properties will contain language similar in intent depending upon the length and scope of the lease agreement.

## **DESIGN OF IMPROVEMENTS.**

Lessee hereby is granted permission and agrees and covenants to commence and prosecute diligently, at Lessee's sole cost and expense, the design of the Lessee Improvements as described herein, in accordance with the provisions of this Article. All Improvements shall be implemented in accordance with the requirements of 36 CFR Part 800, Protection of Historic Properties, which implement Section 106 of the National Historic Preservation Act, and with the concurrence of the State Historic Preservation Officer.

### Standards.

Lessee shall design the Lessee Improvements in accordance with the applicable Rehabilitation Standards, Design Guidelines and Building Reuse Guidelines attached.

### Design.

All of the Design and Construction Documents submitted to Lessor shall be prepared in accordance with the Building Reuse Guidelines and with applicable policies and procedures, including the Partner Handbook. All of the Design and Construction Documents shall be subject to the prior written approval of the Center Director in accordance with an attached Performance Schedule and the submittal requirements set forth as an Exhibit to this Agreement, and as may be modified from time to time by Lessor. All of the Design and Construction Documents that have

been finally approved by the Center Director shall be incorporated herein as an Exhibit to this Lease.

Copy of Contracts.

During the Term, Lessee shall, upon request, furnish Lessor with a true and correct copy of Lessee's contract with any consultants related to this Agreement. Prior to commencement of construction of the Lessee Improvements, Lessee shall furnish to Lessor a copy of any contract with the general contractor, any consultant and the design architect or any modification to or amendment thereof.

Permits.

Prior to commencement of demolition and construction, Lessee shall make application to Lessor for and shall pay to Lessor the cost (as set forth in an Exhibit to this Lease, and as such Exhibit may be modified from time to time in Lessor's sole and reasonable discretion) of Lessor's required permits.

Lead-Based Paint Management.

The lead based paint controls proposed and required by Lessor are compliant with the National Park Service Document [\*Historic Preservation Brief 37\*](#).

Asbestos Management.

**CONSTRUCTION OF IMPROVEMENTS.**

Construction of Lessee Improvements.

Lessee hereby is granted permission and agrees and covenants to commence and prosecute diligently, at Lessee's sole cost and expense (except as expressly provided in this Lease), the construction of the Lessee Improvements as described herein and in accordance with the final Design and Construction Documents approved by the Center Director, all in accordance with the provisions of this Article.

Lessee shall have the right to make the Lessee Improvements in accordance with the applicable Rehabilitation Standards, Building Re-Use Guidelines, and the Design and Construction Documents.

### General Demolition and Construction Requirements.

All the Lessee Improvements shall be done at Lessee's sole cost and expense. All demolition, construction and work shall be performed in a good and workmanlike manner and with materials of a quality consistent with the First Class nature of the Premises. Lessee shall construct the Lessee Improvements in strict accordance with all Applicable Laws, Building Re-use Guidelines, and the Design and Construction Documents and in accordance with the provisions of this Article and all other provisions of this Lease.

Lessee shall not construct any improvements outside the boundaries of the Premises, except as otherwise previously approved by the Center Director.

The provisions of this Article shall be applicable to any change in Design and Construction Documents and any deviations in the actual construction of any the Lessee Improvements from such approved design elements; provided that during the course of construction, the response by the Center Director to any request for approval of any change order requiring the approval of the Center Director hereunder shall be given within ten (10) business days (except in case of emergency, in which case such approval shall be given within twenty-four (24) hours), unless additional review is required by any Applicable Laws. The review, comments, recommendations or approvals of the Design and Construction Documents or any other design documents or any subsequent Alterations or modifications by the Center Director are not, and shall not be deemed to be, a statement of compliance with the terms of this Lease other than the specific terms requiring such approvals.

Lessee shall prepare and maintain on the Premises (a) on a current basis during construction, annotated Design and Construction

Documents showing clearly all changes, revisions and substitutions during construction, and (b) upon completion of construction, as-built drawings showing clearly all changes, revisions and substitutions during construction, including, without limitation, field changes and the final location of all mechanical equipment, utility lines, ducts, outlets, structural members, walls, partitions and other significant features of the Lessee Improvements.

To satisfy the requirements of 36 CFR Part 800, Protection of Historic Properties, and notwithstanding any other provision of this Article, Lessee shall cause the construction of the Lessee Improvements to be performed in accordance with such stipulations or conditions as may be imposed or with any MOA . Should Lessee desire to deviate from such stipulations, conditions, or MOA, Lessee shall give Lessor written notice of same, setting forth the proposed deviations and the justification for them. Lessee shall not implement such proposed deviations unless and until Lessor has determined, and so informs Lessee in writing, that the proposed deviations satisfy the requirements of 36 CFR Part 800. Lessor shall use reasonable efforts to expedite completion of the 36 CFR Part 800 process.

#### Construction Completion Procedures.

On completion of the construction of the Lessee Improvements on the Premises or any part thereof, Lessee shall submit to Lessor a notice of such completion.

On completion of construction of the Lessee Improvements, Lessee shall deliver to Lessor evidence, satisfactory to Lessor, of payment of all costs, expenses, liabilities and liens arising out of or in any way connected with such construction (except for liens that are contested in the manner provided herein). The word "liens" in the previous sentence specifically excludes Leasehold Mortgages.

On completion of the construction of the Lessee Improvements, Lessee shall provide to Lessor a complete set of as-built drawings in a computer based format approved by Lessor.

Upon approval by the Center Director of the completion of the Lessee Improvements for the entire Premises or any part thereof, the Center Director will issue a Certificate of Occupancy or similar document for the Premises or any part thereof.

### On Site Inspection.

### **PRESERVATION MAINTENANCE.**

In addition to Lessee's other obligations pursuant to this Lease, Lessee shall, during the Term, at its own cost and expense and without any cost or expense to Lessor, and subject to the approved Preservation Maintenance Plan and HRPP, keep and maintain the Premises, including without limitation, interior and exterior walls, exterior roof, roof membrane, heating, ventilation and air conditioning systems, operating systems, sidewalks, fire sprinklers, alarms, all windows (interior and exterior), window frames, plate glass and glazing, truck doors, plumbing systems (such as water and drain lines, sinks, toilets, faucets, drains, showers and water fountains), electrical systems (such as panels, conduits, outlets, and lighting fixtures including lamps, bulbs, tubes and ballasts), heating and air conditioning systems (such as compressors, fans, air handlers, ducts, mixing boxes, thermostats, time clocks, boilers, heaters, supply and return grills), interior surfaces of the Premises, down mechanisms, latches, locks, skylights (if any), smoke alarms, fire extinguishing systems and equipment, and all other interior improvements of any nature whatsoever, all of the foregoing in First Class condition and repair and shall allow no nuisances to exist or be maintained thereon. Lessee shall promptly make all repairs, maintenance, replacement, Alterations, Reconstruction, Restoration or Rehabilitation (whether structural or nonstructural, foreseen or unforeseen, or ordinary or extraordinary) necessary to

maintain the Premises and the improvements thereon in compliance with all Applicable Laws, Building Re-use Guidelines, the HRPP, and Rehabilitation Standards to avoid any structural damage or injury to the Premises, the Permitted Property or the improvements and shall maintain the Project and the Premises in First Class condition, all to be done in conformance with the provisions of Exhibits to this Lease. Lessor shall not be obligated to make any repairs, maintenance, replacement, Alterations, Reconstruction, Restoration or Rehabilitation of any kind, nature or description whatsoever to the Premises, the Permitted Property or the improvements and Lessee hereby expressly waives any right to terminate this Lease and any right under any Applicable Laws that would otherwise permit Lessee to make repairs, maintenance, replacement, Alterations, Reconstruction, Restoration or Rehabilitation at Lessor's expense.

Within thirty (30) calendar days of the issuance of the Certificate of Occupancy, Lessee shall submit for approval by the Center Director a plan for the preservation and protection of the Premises during the Term ("Preservation Maintenance Plan"), that complies with the HRPP. The Preservation Maintenance Plan shall, upon request by the Center Director, be periodically amended during the Term. The Preservation Maintenance Plan shall ensure that maintenance activities conducted on the Premises preserve and maintain the existing appearance of the Premises. Such activities shall include, but are not limited to: (a) the housekeeping and routine and cyclic work scheduled to mitigate wear and deterioration; (b) repair and replacement-in-kind of broken or worn-out elements, parts or surfaces; (c) the schedule of inspections of all building systems on the Premises; and (d) a management and remediation plan for lead-based paint and asbestos on the Premises.

**LESSOR'S MAINTENANCE RESPONSIBILITY.**

Following completion of the Lessee Improvements, Lessor shall maintain the foundation, exterior walls and roof structure of the buildings comprising the Premises, but Lessor shall not be responsible for any repairs, maintenance or replacement to that foundation, exterior walls or roof structure where the damage or problem necessitating such repair, maintenance or replacement is caused by or resulting from the actions of Lessee or any of Lessee's contractors, employees, licensees, invitees or agents. Lessee agrees that it shall be responsible for and shall promptly repair, maintain or replace, as necessary, any part or portion of the building foundation, exterior walls and roof structure, where the need for that repair, maintenance or replacement arises out of or results from the actions of Lessee or any of Lessee's contractors, employees, licensees, invitees or agents. Provided that Lessee or its contractors, employees, licensees, invitees or agents have not caused the damage necessitating the repair, maintenance or replacement of the building's foundation, exterior walls, or roof structure, Lessor shall make such repairs, maintenance or replacement, Lessor shall amortize at fifteen percent (15%) interest per annum the cost of the repair, maintenance or replacement over its useful life, and Lessee shall pay to Lessor as Additional Rental each month Lessee's share of the amortization of said cost for the remaining Term. Notwithstanding the foregoing, a crack in the foundation or exterior walls, or any other defect in the building that does not endanger the structural integrity of the buildings comprising the Premises and for which Lessee is not responsible shall not be considered material, and Lessor may elect, in its sole and absolute discretion, not to repair and/or replace the same.

Notwithstanding any other provisions of this Lease, Lessee shall cause the construction of the Lessee Improvements as described herein to be performed in accordance with any stipulations or conditions imposed in any MOA entered into pursuant to satisfying the requirements of 36 CFR Part 800, Protection of Historic Properties and the Building Re-use Guidelines. Any change or

deviation proposed by Lessee in the actual construction from such stipulations, conditions, or MOA shall not be initiated unless and until Lessee has informed Lessor and the requirements of 36 CFR Part 800 have been satisfied. Lessor shall use reasonable efforts to expedite completion of the 36 CFR Part 800 process.

### **ALTERATIONS.**

Lessee shall not make or allow any alterations, additions, or improvements to the Premises or any part of the Premises without Lessor's prior consent, which shall not be unreasonably withheld or delayed. Consent, however, may be conditioned upon the receipt by, and approval of, Lessor of a set of plans and specifications for the alterations no later than thirty (30) days prior to the scheduled construction of the Alterations as well as the use by Lessee of a contractor or contractors acceptable to Lessor. The installation of furnishings, fixtures, equipment, or decorative improvements, none of which shall affect operating systems or the structure of the Premises shall not constitute "Alterations." All Alterations and any furnishings, fixtures, equipment, or decorative improvements remaining on the Premises after the termination or earlier expiration of this Lease shall immediately become Lessor's property and, at the termination or earlier expiration of this Lease, shall remain on the Premises without compensation to Lessee, unless Lessor elects by notice to Lessee to have Lessee remove same and restore the Premises to the condition of as of the date of this Lease in which event Lessee shall cause such removal and/or restoration to be done at Lessee's sole cost and expense. If Lessor requires Lessee to remove any Alterations and any furnishings, fixtures, equipment, or decorative improvements and Lessee fails to cause such removal and/or restoration on or prior to the termination or other earlier expiration of this Lease, such failure shall be deemed a holdover, and in addition to any other damages owing Lessor under this Section, Lessee shall owe Holdover Rent (as hereinafter defined) for each and every day of such failure. All improvements, additions, alterations, and repairs and the removal

and restoration thereof, if required under this Lease, shall be performed in accordance with all applicable laws and at Lessee's sole expense. Lessee will indemnify and defend Lessor for all liens, claims, or damages caused by remodeling, improvements, additions, alterations, and repairs and the removal and restoration thereof, if required under this Lease. Lessor agrees, when requested by Lessee, to execute and deliver any applications, consents, or other instruments reasonably required to permit Lessee to do this work or to obtain permits for the work.

Before any work of any kind or nature is commenced upon the construction of Alterations, and before delivery to the Premises of any construction materials, Lessee will procure and deliver to Lessor a completion bond and a payment bond, both in form and substance satisfactory to Lessor, issued by reputable surety corporations or bonding corporations qualified to do business in California, guaranteeing or otherwise assuring Lessor that the construction of the Alterations will proceed to completion with due diligence, that the reconstruction, when completed, will be fully paid for, and that the Premises will remain free of all mechanics', laborers' or materialmen's liens or claimed liens on account of any services or materials furnished or labor or work performed in connection with the construction of the Alterations.

At least ten (10) days before any construction commences or materials are delivered for any alterations that Lessee is making to the Premises, whether or not Lessor's consent is required, Lessee shall give written notice to Lessor as to when the construction is to commence or the materials are to be delivered. Lessor shall then have the right to post and maintain on the Premises any notices that are required to protect Lessor and Lessor's interest in the Premises from any liens for work and labor performed or materials furnished in making the Alterations. It shall be Lessee's duty to keep the Premises free and clear of all liens, claims, and demands for work performed, materials furnished, or operations conducted on the

Premises by or on behalf of Lessee. In the event that Lessee fails to provide Lessor with the notice required by this Section, Lessor shall have the right to cause the cessation of such construction and shall have the further right to file notices of cessation and/or completion, so as to allow the Premises to be protected from mechanic's liens. Lessee hereby irrevocably appoints Lessor its attorney-in-fact which appointment is coupled with an interest to cause such cessation and to file such notices.

To satisfy the requirements of 36 CFR Part 800, Protection of Historic Properties, and notwithstanding any other provision of this Article, Lessee shall cause the construction of any Alterations to the Premises or any part thereof to be performed in accordance with such stipulations or conditions as may be imposed in the Building Re-use Guidelines or with any MOA. Should Lessee desire to deviate from such stipulations, conditions, or MOA, Lessee shall give Lessor written notice of same, setting forth the proposed deviations and the justification for them. Lessee shall not implement such proposed deviations unless and until Lessor has determined, and so informs Lessee in writing, that the proposed deviations satisfy the requirements of 36 CFR Part 800.

1 PROGRAMMATIC AGREEMENT  
2 AMONG  
3 NASA AMES RESEARCH CENTER,

4 THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND  
5 THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER  
6 REGARDING  
7 IMPLEMENTATION OF A HISTORIC RESOURCES PROTECTION PLAN  
8 FOR SHENANDOAH PLAZA HISTORIC DISTRICT AND FOR THE  
9 REMAINDER OF NASA RESEARCH PARK MOFFETT FIELD, CALIFORNIA

10 WHEREAS, the National Aeronautics and Space Administration (NASA) Ames Research Center  
11 proposes to administer the Historic Resources Protection Plan (HRPP) for Shenandoah Plaza Historic  
12 District and to continue its management of the remainder of NASA Research Park (NRP) Moffett Field,  
13 California and

14 WHEREAS, NASA Ames Research Center has determined that ongoing programs and future uses may  
15 have an effect on properties that are listed in or eligible for listing in the National Register of Historic  
16 Places (National Register), and has consulted with the Advisory Council on Historic Preservation  
17 (Council), and the California State Historic Preservation Officer (SHPO) pursuant to Section 800.14 of 36  
18 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (NHPA)  
19 (16 USC 470f);

20 NOW THEREFORE, NASA, the Council, and the SHPO agree that the Undertaking shall be carried out  
21 in accordance with the following stipulations in order to take into account the effects of Undertaking on  
22 historic properties.

23 **STIPULATIONS**

24 NASA shall ensure that the following stipulations are carried out:

25 1. APPLICABILITY OF THIS PROGRAMMATIC AGREEMENT

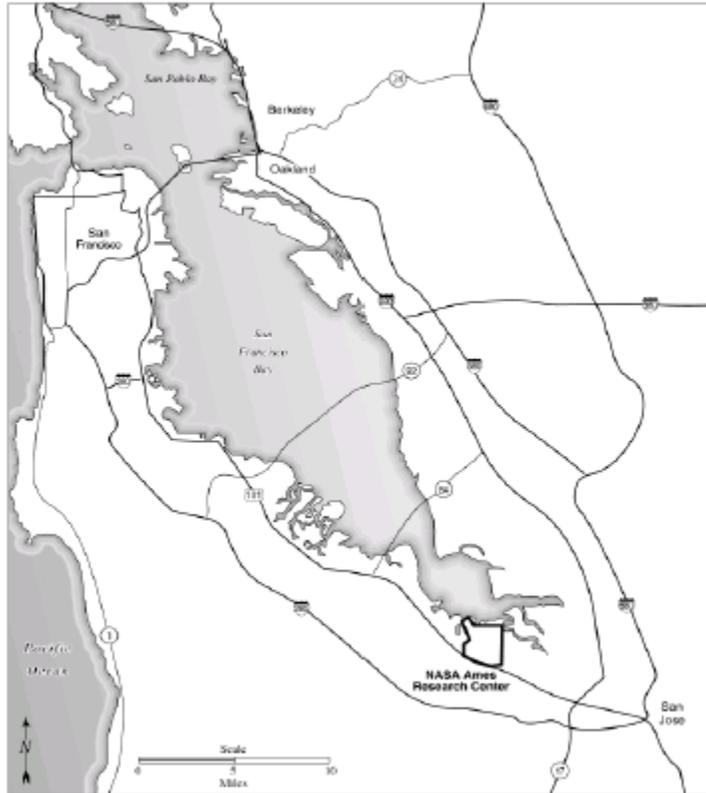
26 This Programmatic Agreement (PA)PA applies to all activities within the jurisdictional area of the  
27 attached Historic Resources Protection Plan (HRPP). That jurisdictional area (See Figure 1-3) consists of  
28 Shenandoah Plaza Historic District and the remainder of NRP Moffett Field. Such activities include, but  
29 may not necessarily be limited to, new building construction; routine maintenance and repair;  
30 landscaping; operations; rehabilitation; leasing; and reuse of buildings, structures and other contributing  
31 elements of the Shenandoah Plaza Historic District. This PA does not apply to undertakings of the  
32 military within the adjacent Berry Drive officer housing area, which includes nine stand-alone housing  
33 elements that contribute to the Shenandoah Plaza Historic District (District).

34  
35  
36  
37

1 [Figure](#)

2 [1-1 Regional Location of NASA Ames Research Center – Moffett Field](#)

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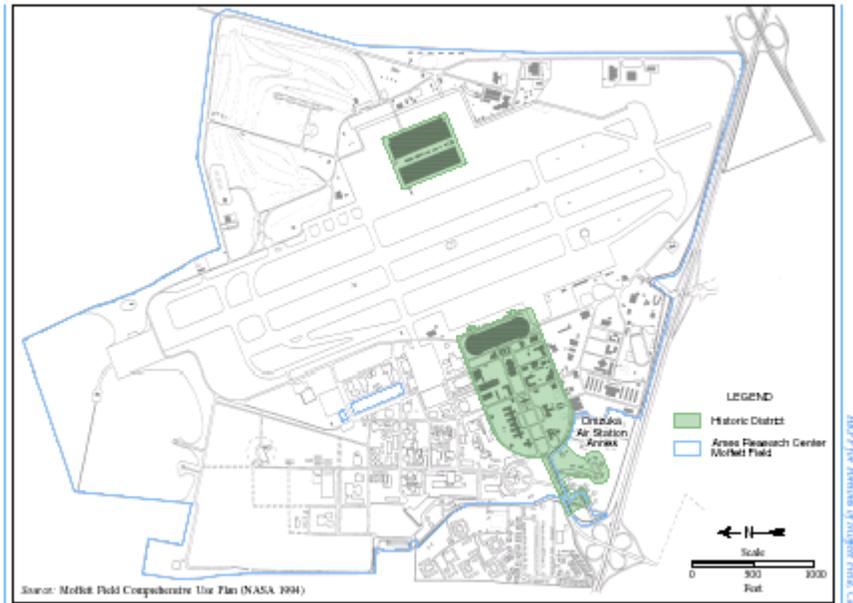
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2 [Figure](#)

3 [1-2 Shenandoah Plaza Historic District, NASA Ames Research Center, Moffett Field](#)

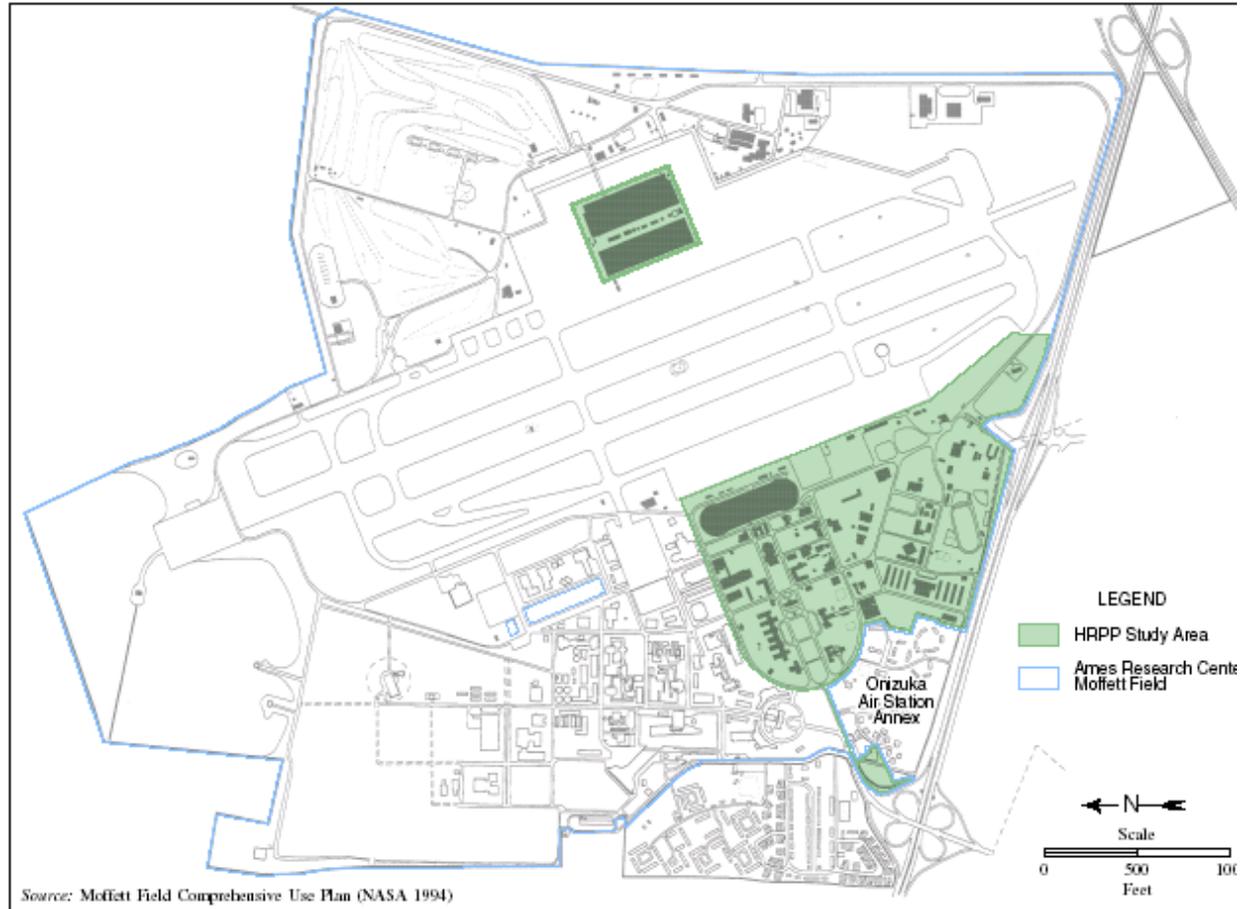


180° for Review of Moffett Field, Calif

4

1 | [Figure](#)

2 | [1-3](#) | [HRPP Study Area and NASA Ames Research Center – Moffett Field](#)



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1    2. POLICY

2    NASA shall manage and preserve historic properties covered by this PA consistent with the goals of the  
3    NHPA, related regulations, standards, and guidelines, and in accordance with the attached HRPP.  
4    Additional National Register evaluations and re-evaluations will be conducted pursuant to 36 CFR 800.4

5    3. TIMING OF REVIEWS UNDER THIS PA.

6    All reviews required by this PA must be completed before NASA's approval of any activity or any  
7    irrevocable commitment by NASA for construction, repairs, maintenance, rehabilitation, renovation,  
8    leasing, or demolition cited in Stipulation 1 of this PA .

9    4. HISTORIC PROPERTIES COVERED BY THIS PA

10   a. This PA covers those NASA properties that are (1) currently designated as contributing to the  
11    significance of the District, which was approved for listing on the National Register on February 24,  
12    1994.

13   5. ACTIVITIES EXEMPT FROM FURTHER REVIEW UNDER THIS PA

14   Activities described in Appendix A of the HRPP, "Actions Not Requiring Further Consultation," may  
15   proceed with no further consultation with the SHPO or the Council. The HRPP is the integral document  
16   through which activities covered by this PA are implemented.

17

18   6. REQUIRED CONSULTATION PURSUANT TO 36 CFR PART 800.

19   a. NASA shall consult with the SHPO and the Council, pursuant to 36 CFR Part 800, on all activities  
20   covered by this PA that may adversely affect historic properties. In determining whether an activity may  
21   adversely affect historic properties, NASA shall employ the Criteria of Adverse Effect set forth in 36  
22   CFR §800.5.(a)(1-2).

23   b. NASA will provide documentation that meets standards specified in 36 CFR 800.11.(e) for activities  
24   subject to consultation under this stipulation.

25   7. LEASES AND LICENSES (INGRANTS AND OUTGRANTS)

26   Leases, licenses, concessions, contracts, easements and other legal agreements for the use of historic  
27   properties described in Stipulation 4. of this PA shall contain terms and conditions that NASA deems  
28   necessary to protect and preserve historic properties. These terms and conditions shall minimally contain  
29   language identified in Section 6.3 of the attached HRPP. NASA remains responsible for completing all  
30   reviews required by this PA prior to issuing agreements for the use and reuse of historic properties.

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1 8. NON EMERGENCY DISCOVERIES AND UNANTICIPATED EFFECTS

2 Should NASA, in the process of carrying out any non-emergency activity covered by this PA, including  
3 those listed in Appendix A of the HRPP, find that the activity may affect a previously unknown property  
4 that may be eligible for inclusion on the National Register, or that the activity will affect a known historic  
5 property in an unanticipated manner, NASA will cease work on only those portions of the action that in  
6 its judgment have the potential to adversely affect the property and will consult with the SHPO to  
7 determine the appropriate treatment of the property. All discoveries shall follow protocols outlined in  
8 CFR 800.13

9

10 9. NATURAL DISASTERS

11 In the past, Moffett Field has experienced natural disasters which are likely to recur in the future. For a  
12 period not to exceed 45 days after the conclusion of the emergency created by a natural disaster, NASA  
13 will proceed as follows:

14 a. NASA, without SHPO or Council consultation, will undertake emergency actions pursuant to the  
15 terms of this PA to stabilize any historic properties and prevent further damage.

16 b. NASA shall document all emergency work having the potential to affect historic properties.

17 c. NASA will make every effort to void known or discovered historic properties during disaster or  
18 emergency response activities. However, in those cases where avoidance is not possible or avoidance  
19 could impede emergency responses, photographic and written documentation of affected historic  
20 properties shall be prepared and retained.

21 d. All emergency measures shall be undertaken in a manner that does not foreclose future preservation  
22 or rehabilitation, unless NASA determines that the integrity of an historic property has been  
23 permanently lost.

24 e. Within 90 days after the conclusion of the disaster or emergency period, NASA shall submit to the  
25 SHPO and the Council a report that documents how any effects of disaster or emergency response  
26 operations on historic properties were taken into account.

27

28 10. EMERGENCY REPAIRS TO MOFFETT FIELD INFRASTRUCTURE

29 In the event that damage to or failure of infrastructure at Moffett Field poses an immediate threat to life,  
30 health or property, NASA will undertake emergency repairs with on-site monitoring by appropriate  
31 cultural resource specialists.

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1 11. UNANTICIPATED DISCOVERIES DURING EMERGENCY OPERATIONS

2 a. If potential historic properties are discovered during emergency response actions not covered by  
3 Stipulation 4. of this PA, all work that could result in an adverse effect shall cease, provided that the  
4 NASA Ames Research Center Director of Operations or his delegated representative, determines cessation  
5 of work will not impede the emergency response action. If work stoppage at the discovery site will  
6 impede emergency response actions, the response action may continue and NASA will immediately  
7 notify the SHPO by telephone and provide the following information:

- 8 i. finding of a required emergency.
- 9 ii. description of the emergency and steps necessary to address the situation.
- 10 iii. description of the discovery and its prospective significance.
- 11 iv. description of the emergency and the potential effect on the discovery.
- 12 v. efforts to consider effect on prospective or known historic properties.

13 b. Repairs and emergency treatment of any discovered properties carried out pursuant to this stipulation  
14 will be documented by NASA in writing. Such documentation will consist of the information specified in  
15 items i. - v., above, of this stipulation, and will be submitted to the SHPO within 15 days after the  
16 emergency action has been concluded.

17 12. PROFESSIONAL SUPERVISION

18 NASA shall ensure that all activities affecting historic properties carried out pursuant to this PA, except  
19 for routine maintenance, are carried out by or under the direct supervision of a person or persons trained  
20 to implement the HRPP. NASA shall develop the content and schedule of such training in consultation  
21 with the SHPO.

22 13. RECORD KEEPING

23 NASA will maintain a log, by building or facility number, of those activities listed in Appendix A of the  
24 HRPP that are undertaken without further consultation with the SHPO or the Council. The log will  
25 include, at a minimum, a complete description of each activity and clear unobstructed photographs  
26 documenting the full extent of the activity, before and after implementation, at each individual  
27 building/facility. The log will also include concise descriptions of all activities which were previously  
28 reviewed, pursuant to Stipulation 5 above, including any SHPO and Council file numbers, so that the  
29 incremental effects of all activities can be considered.

30 14. ANNUAL REPORT

31 NASA will prepare a written annual report summarizing its activities under this PA. This report will be  
32 provided to the SHPO and the Council for review and comment by December 1<sup>st</sup> of each year that this PA  
33 is in effect. The annual report shall include information on the activities covered by this PA, and make  
34 recommendations for modifications that may increase the PA's effectiveness. Copies of the log  
35 maintained in accordance with Stipulation 13. of this PA, will be included as an appendix to the annual  
36 report. The SHPO and the Council will be afforded 30 days following receipt to comment on the annual

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1 report. During this time frame, any signatory may request that all signatories meet to discuss the content  
2 of the annual report. Based on such consultation, the signatories may determine whether this PA shall  
3 continue in force, be amended or terminated as provided for in Stipulations 17 and 18.

4 15. MONITORING BY THE SHPO AND THE COUNCIL

5 The Council and SHPO may monitor activities carried out pursuant to this PA. The Council will review  
6 such activities, if so requested. NASA will cooperate with the Council and the SHPO in carrying out their  
7 monitoring and review responsibilities.

8  
9 16. DISPUTE RESOLUTION

10 a. Should the SHPO or Council object in writing to the manner in which the terms of this PA are  
11 implemented, to any action carried out or proposed with respect to implementation of this PA, or  
12 to any documentation prepared in accordance with and subject to the terms of this PA, NASA  
13 will consult with the objecting party to resolve the objection. NASA will determine a reasonable  
14 time frame for this consultation. If the objection is resolved within this time frame, NASA may  
15 proceed with its action in accordance with the terms of such resolution. If NASA determines that  
16 such objection cannot be resolved within this time frame, NASA will forward all documentation  
17 relevant to the dispute to the Council, including NASA's proposed response to the objection.  
18 Within 30 days after receipt of all pertinent documentation, the Council will :

- 19  
20 1. Advise NASA that it concurs in NASA's proposed response, whereupon NASA  
21 will respond to the objection accordingly. Thereafter, NASA may proceed with  
22 its action in a manner consistent with the proposed response; or  
23  
24 2. Provide NASA with recommendations, which NASA shall take into account in  
25 reaching a final decision regarding its response to the objection. Upon reaching  
26 its final decision, NASA will notify the other signatories of its final decision and  
27 may thereafter proceed with its action; or  
28  
29 3. Notify NASA that the objection will be referred for comment pursuant to 36 CFR  
30 §800.7(a)(4), and proceed to refer the objection and comment. In this event,  
31 NASA shall ensure that its agency head is prepared to take the resulting  
32 comments into account in accordance with 36 CFR § 800.7(c)(4) and Section  
33 110(l) of the National Historic Preservation Act. Subsequently, NASA shall  
34 notify the other signatories of its final decision regarding the objection, and may  
35 thereafter proceed with its action

36  
37 b. Should the Council not exercise one of the foregoing options within 30 days following  
38 receipt of all pertinent documentation, NASA may assume the Council's concurrence in its  
39 proposed response to the objection, advise other signatories of that response, and proceed  
40 with its action in a manner consistent with that response.

- 1 c. NASA shall taken into account any Council comments or recommendations provided in  
2 accordance with this stipulation with reference only to the subject of the objection; NASA  
3 responsibility to carry out all actions under this PA that are not the subjects of the objection  
4 shall remain unchanged.
- 5 d. At any time during the implementation of the measures stipulated in this PA, should an  
6 objection pertaining to such implementation be raised by a member of the public, NASA  
7 shall notify the other signatories about the objection and take the objection into account,  
8 consulting with the objecting party, the SHPO, or the Council to address the objection.

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10 17. AMENDMENTS

- 11
- 12 a. If any signatory believes that this PA should be amended, that signatory may at any time propose  
13 amendments, whereupon the signatories will consult to consider the amendment pursuant to 36  
14 CFR § 800.6(c)(7) and § 800.6(c)(8). This PA may be amended only upon the written  
15 concurrence of the signatories.
- 16
- 17 b. The HRPP may be amended at any time through consultation and mutual agreement of the  
18 signatories. Such amendment shall not require amendment of this PA.

19 18. TERMINATION

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- 21 a. If this PA is not amended as provided for in Stipulation 17., above, or if any signatory proposes  
22 termination of this PA for other reasons, the signatory proposing termination shall in writing notify the  
23 other signatories, explain the reasons for proposing termination, and consult with the other signatories for  
24 no more than 30 days to seek alternatives to termination.
- 25
- 26 b. Should such consultation fail, the signatory proposing termination may terminate this PA by  
27 promptly notifying the other signatories in writing.
- 28
- 29 c. Should this PA be terminated, then beginning with the date of termination NASA shall do the  
30 following:
- 31
- 32 i. promptly consult with the other signatories to develop a new PA pursuant to 36 CFR Part 800.
- 33
- 34 ii. ensure that until a new PA is executed for the actions covered by this PA, that each  
35 such individual action is reviewed in accordance with 36 CFR § 800.4 - 800.6.

36 19. DURATION

37 This PA will remain in effect for a period of 10 years and will automatically become null and void at the  
38 end of this ten year period unless it is terminated prior to that time. Not later than 6 months prior to the  
39 expiration date of this PA, NASA will re-initiate review of the Undertaking in accordance with 36 CFR  
40 Part 800.

1 20. ANTI-DEFICIENCY ACT

2 All activities under or pursuant to this PA are subject to the availability of appropriated funds, and no  
3 provision shall be interpreted to require obligation or provision of funds in violation of the Anti-  
4 Deficiency Act, 31 U. S. C. § 1341.

5  
6 Execution of this PA by NASA, the SHPO and the Council, and subsequent implementation of its terms,  
7 evidence that NASA has afforded the Council a reasonable opportunity to comment on the Undertaking  
8 and its effects on historic properties, that NASA has taken into account the effects of the Undertaking on  
9 historic properties, and that NASA has satisfied its responsibilities under Section 106 of the NHPA and  
10 applicable implementing regulations for all aspects of the Undertaking.

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15 *NATIONAL AERONAUTICS AND SPACE ADMINISTRATION:*

16  
17 BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
18 Director  
19 Ames Research Center  
20 Moffett Field, CA 94035-1000

21

22 *CALIFORNIA STATE HISTORIC PRESERVATION OFFICER:*

23  
24 BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
25 Dr. Knox Mellon, State Historic Preservation Officer

26

27 *ADVISORY COUNCIL ON HISTORIC PRESERVATION:*

28  
29 BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
30 Executive Director

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October 25, 2000

Michael D. Makinen  
Historic Preservation Officer  
NASA/Ames  
Mail Stop 19-1  
Moffett Field, CA 94035-1000

Dear Mike,

Per your request, I have evaluated the following buildings, 148-151, 153-156, 158 and 67 for historic significance under Criterion G of the National Register of Historic Places criteria and considerations

The criteria considerations state in part “properties that have achieved significance within the last 50 years shall not be considered eligible for the National Register. However, such properties *will qualify* if they are integral parts of districts that do meet the criteria or if they fall within the following categories” which are listed from (a) to (g). Criterion G addresses “a property achieving significance within the past 50 years if it is of exceptional importance.”

After reviewing these buildings I have reached the following conclusions:

1. Buildings 148-151 were constructed in 1953 for use as Enlisted Men’s Barracks and exist today in their original form. They were evaluated for historic significance in the March 1999 Inventory and Evaluation of Cold War Era (1946-1989) Historical Resources. In that document it was determined that they were support buildings, “a type found at any Naval installation regardless of mission.” It was concluded that they were not of exceptional significance and were not considered eligible for the National Register of Historic Places (Criterion G). I see no reason to change this finding when evaluating them for historic significance for the period (1990-2000) after the Cold War Era.
2. Buildings 153-156 were constructed in 1953 for use as Enlisted Men’s Barracks and have been structurally modified since their original construction. In March 1999, the same evaluation was made for them as for Buildings 148-

151 with the same conclusion reached. As with the above, I see no reason to change this finding when evaluating Buildings 153-156 for historic significance for the period (1990-2000) after the Cold War Era.

3. Building 158 was constructed in 1954 for Flight Operations. It also was evaluated in March 1999 for historic significance in the Inventory and Evaluation of Cold War Era (1946-1989) Historical Resources. That evaluation concluded that Building 158 was “a support building, a type found at any Naval installation regardless of mission” and was not “of exceptional national significance” and “not considered eligible for the National Register of Historic Places (Criterion G).” The same evaluation holds true when evaluating Building 158 for historic significance for the period (1990-2000) after the Cold War Era.
4. Building 67 is a one-story, 2338 square foot rectangular concrete building of no particular architectural style. It was constructed in 1943 and is used as the Post Office. Building 67 is a support building, a type found on any Naval installation regardless of mission and while within the boundaries of the Shenandoah Plaza National Register District, Building 67 does not meet the criteria for achieving its own exceptional significance and is not an integral part of the district. Therefore, it is my conclusion that Building 67 is not considered eligible for the National Register of Historic Places (Criterion G).

In summary, it is my conclusion that a re-evaluation of Buildings 148-151, 153-156, 158 and evaluation of Building 67 under Criterion G of the NRHP criteria and considerations has shown that none of the buildings are considered eligible for the National Register of Historic Places under the criterion of *exceptional* national importance.

Sincerely yours,

Lorie Garcia,  
Principal Consultant  
Beyond Buildings  
1756 Fremont Street  
Santa Clara, CA 95050